

The international plastic modelling monthly

AIRFIX

magazine

VOLUME 3 NUMBER 11 APRIL 1992

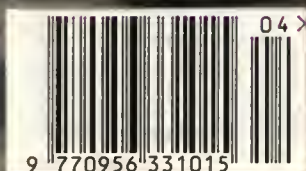
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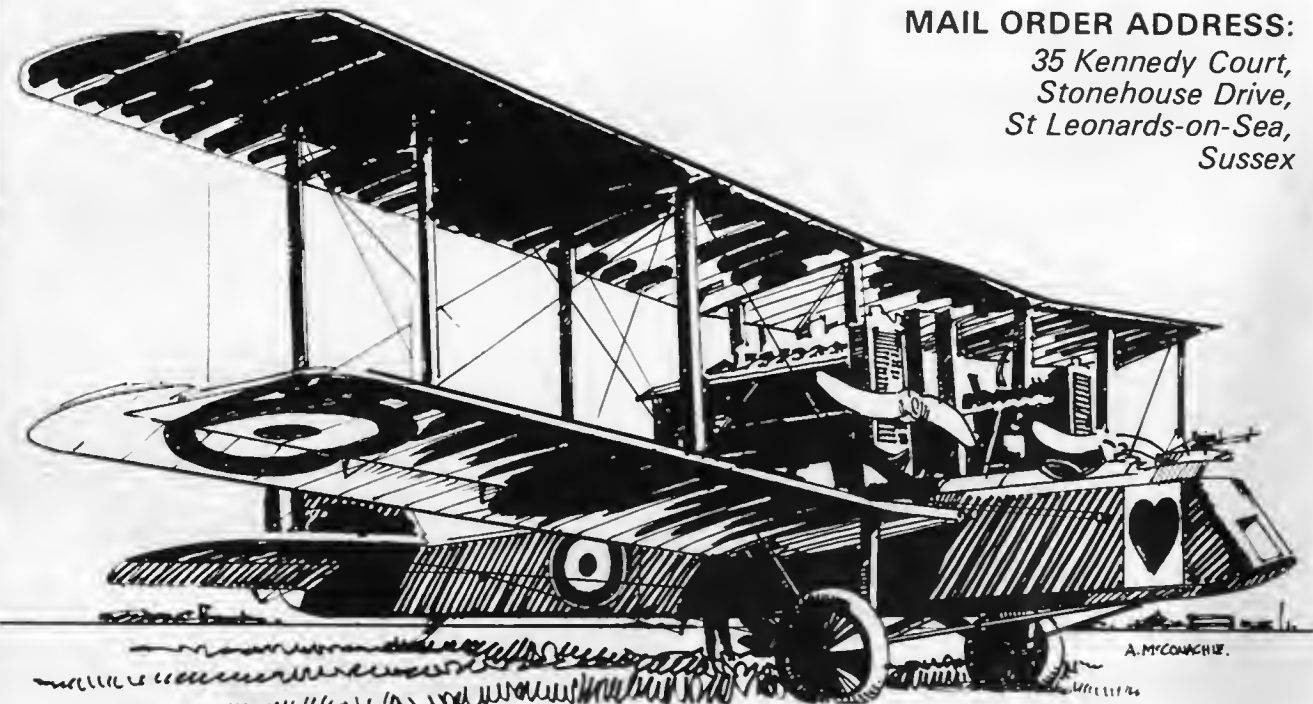
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Jim Wood's last model. This 1:48th scale Bell 47 was one of the best he produced for Esoteric. He died on 3 March aged 54 but the tradition he fostered will live on as will his company.

Editorial

JAMES P. WOOD

IT may not be the place to write an obituary in an editorial but the passing of Jim Wood, a former editor of this magazine, on Tuesday 3 March 1992 cannot go without a tribute from all those who were associated with him over the years and as I feel that the most important part in any magazine is the editorial, I am taking this opportunity to pass on my own regards for Jim as well, as those of hundreds of other modellers who knew him both in this country and the United States. Jim Wood was an enthusiast in everything he did. I first met up with him when he came to the UK in the mid sixties regularly as part of a Pan American Airways crew. Since then a friendship developed that has lasted for a long time. Professionally Jim had a family devoted to aviation. His father served in Britain in World War 2 and he carried on the tradition. But Jim's interest also turned to modelling amongst many other things. He was one of the first members of the embryo International Plastic Modelling Society in the United States and I well remember early correspondence when I was the first editor of Airfix Magazine which came with a decal sheet of Japanese Hinomarus which he had produce in a consortium to try and get the colours right! I still have the remains of that sheet. His passion for modelling even went as far as his flying activities in the US National Air Guard when flying Voodoos he painted the nose art 'IPMS One' on his aircraft. PanAm posted Jim Wood to Europe and he got his captaincy on Boeing 727s on the Berlin run. He bought a house in Camberly, Surrey, and incidentally, a very upmarket pad in Berlin. He was in his element. IPMS UK and the friends he made here satisfied his modelling interests but at the same time he nurtured a passion for good music and installed some of the most modern hifi equipment in his house. Jim was there before compact discs! We even discussed publishing a magazine on the subject at one time. His other interest was in motor bikes. I didn't see many of these but I certainly recall hearing them. But fate took it's hand and Jim had to give up flying because of a medical problem. He settled in a 'barn' in a village near Didcot, Oxon and there developed an idea he had wanted to do for some time. Esoteric Models was something that Jim had always wanted. He could produce something that somebody else wanted but at the same time provide his own enjoyment. The idea caught on and with a mixture of vacuform, resin and metal he produced some of the most interesting aircraft models that have come from the cottage industry for some time. His last was the 1:48th scale Bell 47 which is reviewed in this issue.

There can be no replacement for a guy like Jim Wood. He took on the duties of editor of this magazine when we wanted to give it a boost into the present day. His work helped a great deal in promoting the early copies. There can be no doubt that the name of Jim Wood will be remembered for a long time and although only 54, he died at a time when the industry was becoming established through the efforts of people like him. Jim Wood was a pioneer and will be missed by his many friends and customers alike. Can I say more?

Alan W. Hall

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AIRFIX magazine

VOLUME 3 NUMBER 10
APRIL 1992

Published monthly by Alan W. Hall
(Publications) Ltd,
226 High Street, Berkhamsted,
Hertfordshire HP4 1AD

Advertisement and sales office:
226 High Street, Berkhamsted,
Herts HP4 1AD
Telephone: (0442) 874682-3
FAX: (0442) 877061

Printed in England by
Macdermott & Chant Ltd,
22 Guildford Road,
St Albans,
Herts AL1 5JY

Airfix Magazine is a
registered Trade Mark of
Humbrol Ltd.

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SUBSCRIPTION RATES

UK £18.00. Europe and the rest of the world except the US and Canada £24.24. US \$40.00 and Canada \$48.00. Copies will be dispatched by printed paper rate surface mail unless specifically requested. Airmail rates on application. Payment from overseas with the exception of the US and Canada should be made by International Money Order, a bankers draft on the UK branch of the subscribers own bank or by Giro credit. Giro credit No.233 0253. North American subscribers may pay direct by cheques drawn on their own banks. Orders should be sent with remittance to the Subscription Department, Airfix Magazine, 226 High Street, Berkhamsted, Herts HP4 1AD, England. Cheques and money orders should be made payable to Alan W. Hall (Publications) Ltd.

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Distributed to the news trade by Seymour Development Division, 1270 London Road, Norbury, London SW16 4DH. Telephone: 081-679 1899. North American hobby shop distribution through Bill Dean Books Ltd, 166-41 Powells Boulevard, Whitestone, New York 11367, USA. Telephone: (212) 767 6632.

Detailing the Mil Mi-28 Havoc

by Greg Kerry



THE Mi-28 might well be considered the Russian equivalent to the AH-64 Apache, indeed in basic configuration the machines are very similar: same cockpit layout, armament fit and engine installation. However, it is interesting to note that one American helicopter test pilot reckoned the Soviet design 'the most effective attack helicopter yet developed'.

Essentially a derivative of the larger Mi-24 design, work began on the Havoc back in 1983. The newer machine lacks the Hind's transport cabin but has greater crew protection and a much slimmer fuselage.

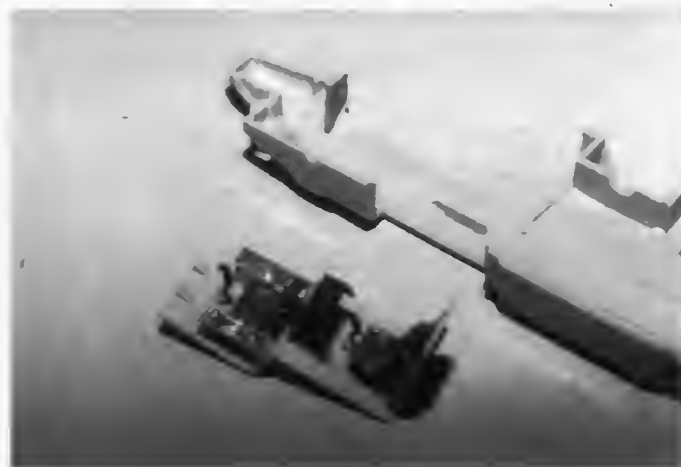
Powerplants are Isotov TV3-117 turboshafts rated at 2,200shp. These are fitted with heavily shrouded, downward deflected exhausts. The nose gun is a single 2A-42 30-mm cannon

pod on each inboard mount.

DRAGON 1:72 HAVOC KIT

Based not on a full production machine but on the third prototype as it was displayed at the Paris Air Show in 1989 this kit includes a good set of decals for the specific machine: coded 032 and carrying the Air Show number H-390.

This is one of two 1:72 scale



Stage 1, Putting together the cockpit internals

identical to the weapon carried on many Soviet AFVs giving excellent commonality with ground forces. 150 rounds of ammunition is carried in each of the side magazines. The short stub wings carry four weapons pylons typically loaded with eight tube-launched AT-6 Spiral anti-tank missiles on each outboard pylon with a UB-20 rocket

kits of the type on the market at the moment. The Revell product was issued first and lacks the detail and accuracy of the Dragon kit. Nevertheless, the latter is far from fault free. As with many of this company's products this kit is essentially well moulded with a good collection of sharply defined parts but in some areas - notably the rotor head - it has

been over-simplified rather too much to my mind.

News that PP Aeroparts had issued an etched brass detailing set to complement the Dragon model seemed to offer a good remedy to this situation and prompted me to undertake the work described here.

The Aeroparts set makes the point that it was intended to fit the Dragon rather than the Revell kit which makes all the advice to use the former well worth following.

Before beginning construction it is more necessary with a project like this than it is with build-



Boxing in the cockpit detail.

ing a straightforward all-plastic kit to study the component parts and see what is intended to go where - most especially to check which plastic parts are to be replaced by the etched brass details.

REFERENCES

With work of this variety good references are essential. The Dragon boxtop artwork provides a useful guide and the Aeroparts instruction sheet is also good - though for the port side of the machine only. Magazines worth consulting are:- Air International

Overall an interesting looking model made more convincing by the drooped rotor blades.

for January 1990, Vol. 38 No 1, which has an excellent cut-away drawing of the type's internals and Take Off, Vol. 11, No 151, which has some good colour photos and a full colour three view camouflage scheme

CONSTRUCTION

All of the brass detailing parts pertain to the exterior of the model but the Dragon kit's cockpit is rather basic and is well served by a little extra work to begin with though it is worth noting that the tinted cockpit hood panels do actually hide a lot.

Stage 1 Cockpit

The seats have shoulder but not lap straps so these were added from thin metal foil. The pilot's control stick is fine but a cyclic pitch control stick is required (shaped like a car's handbrake lever) on the left of his seat (i.e. the rear one). The gunner's control as supplied is identical to the pilot's and initially I fitted this to my model as shown in the accompanying photo, however, I later found this to be wrong: it should have a yoke-type hand-grip easily made from thinly stretched sprue. I also added side consoles either side of the gunner's seat just to fill in the gaps that would otherwise have been left.

The kit's instrument panel



Stage 3, final assembly of the fuselage.

underside once all other work is complete. I also left off the transparent parts D3 and D4 in order to make final painting a little easier - and these can be replaced with minute blobs of Krystal Kleer. Parts C44 and 45 have brass substitutes and part A12 is best left off (as is the tail-wheel) until the fuselage joint has been cleared up.

After this the coaming shroud over the gunner's instrument panel was fitted (to more or less match that of the pilot) and the sights (D5 and C41) were also added. This completes the cockpit detailing.

Stage 2 Engines

The engine pods and exhaust assemblies were glued together

place all those brass items added to the fuselage exterior can be carefully glued in place. I suggest starting at the nose and working backwards but being extremely cautious as you go. In spite of using superglue it is still very easy to knock off the brass parts accidentally - and if they happen to fall on the floor they may well be lost completely. PP Aeroparts' instructions deal with fitment of these quite adequately. Only problem I encountered stemmed from the fact that it's difficult to identify all of the individual parts on the brass sprue. The laser window wiper in particular I thought I had lost until I realised it was the part next to the canopy wipers. Best advice is to cut each part free



Completed nose gun after a very tricky construction.

and had their visible joints sanded down before each was glued to the fuselage; the stub wings followed. However, note that the intake guards (B4 and B5 x 2) were left off till later with each individual part being painted separately. Next, part A12 was attended to. Supplied with the large intake and circular cooling outlets blanked off this part needs surgery to open these items up. Once done, card backing is necessary to blank these off from the underside of the part - which may sound contradictory but gives the openings more depth than they had originally.

only as you use it: one or two parts are duplicated - but not all.

Stage 4 Nose Gun

A tricky construction in any case adding the replacement brass parts makes assembling this doubly so. Just note that part G27 (cartridge case ejection chute) sits on one side of the cannon barrel. Also, it is necessary to paint each part before assembly.

Stage 5 Main and Tail Rotors

The Aeroparts set includes actuator rods for the main rotor but this is where the limitations of etched brass shows itself for these parts are really too flat and two dimensional. I used them anyway as they are better than

the kit parts but making completely new ones from stretched sprue would probably be the best answer.

For the tail rotor similar brass parts are provided though this is only a two part assembly. It's interesting to find that these metal items do not replace plastic ones - as Dragon have no representation of this mechanism at all clearly, showing just how simplified the plastic kit is. But even the brass item is simplified too. With this firmly in place the actuator arms need to be attached to the blade roots by curved lengths of stretched sprue - all of which is clearly shown on the cut-away drawing in the issue of Air International cited earlier.

Stage 6 Weapons Fit

For the most part this is self



Main rotor head.

explanatory. Aeroparts items detail the rear of the rocket pods - best accomplished before the pod bodies are glued together. I did consider drilling out the pod launch tubes as well but decided against this on the grounds that the tubes were dangerously thin to start with - careful painting accomplished the job almost as convincingly.

Also very good indeed are the front and rear covers for the main missile tubes. Once together these assemblies need painting and then drybrushing in white or pale grey to bring that moulded detail out.

Painting

With the undercarriage legs (but not the wheels) in position the main painting is begun. This is not as simple as it might be

because of the confusing nature of the Dragon painting guide. In the first place the colours quoted do not all correspond with those shown on the boxtop - nor do they with colour photos of the machine in question. As well as I can make it out colour A specified by Dragon is correct but B should be dark green (not European green), L should be pale green (not dark green), and C should be pale grey (not pale green). Still confused? Well, join the club; reference to some good colour photos is absolutely necessary in finishing this model correctly.

Once the main camouflage colours have been applied varnish and decals can follow. Getting the latter on successfully is another trial because of the bumpiness of the Havoc's exterior - decal softener is vital for

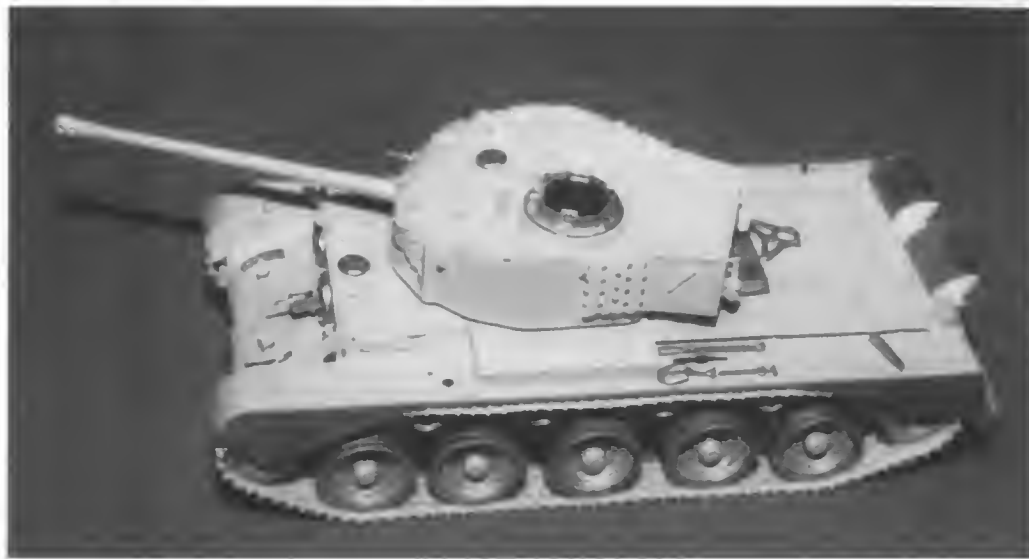
this.

After final varnishing those last bits and pieces can all be glued in place and the model is at last completed. Overall it does make up into an impressive exhibit though I have to admit to being disappointed with the rotor head detail. Were I making the model again I would have cut these areas away from each blade root and attempted to fit a substitute construction using stretched sprue and scrap plastic - the Dragon kit items really are simplified just that little bit too much. In fact, if you can wait, why not lay the PP Aeroparts set in and sit tight until, say, Hasegawa produce a Havoc kit? They would be certain to make a better detailing job of the rotors than Dragon have done.

Adding final detail to the fuselage after painting



Building resin kits



The A34 Comet Mk1

By Paul Woodman

THE A34, Cruiser Tank Comet Mk1 was the last and most powerful British tank to see action during World War 2. It was September 1941 that the specification of the A34 was first laid down when the General Staff informed the Tank Board that a tank mounting a high velocity gun was needed. This specification first produced the A34 Challenger Mk1 which after a prolonged development stage entered service in 1944. The A30 was based on the A27M Cromwell hull which was lengthened to enable a larger turret to be fitted mounting the powerful 17 pdr anti-tank gun. At best it was a lash-up, too top heavy and the hull too narrow for the length of the vehicle. However it served well in North Western Europe and it was popular with its crews once the major problems had been ironed out.

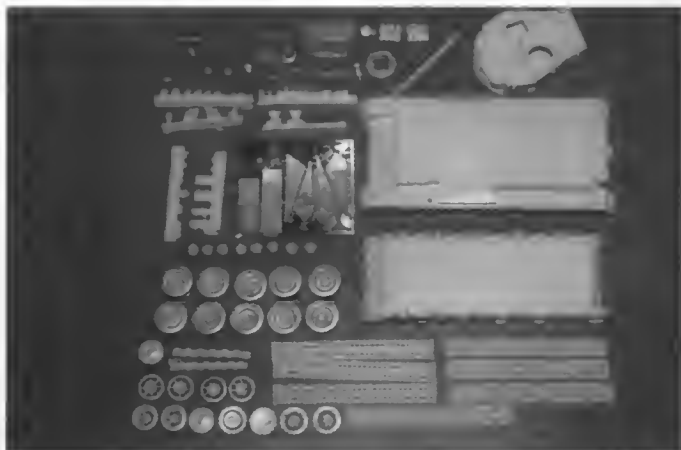
By January 1943 the Tank Board had recognised that the Challenger would not be a great success and so a new tank was required. Unfortunately at this time the official policy on tank armament changed, the US 75mm calibre was adopted for the Cromwell and Churchill as it was a better dual-role weapon than the 6 pounder anti-tank gun. The second decision that was too effect the A34 was the Firefly programme. It was found that the 17 pounder gun could be mounted in a standard Sherman turret with a few minor modifications, the resulting tank being named the Firefly. Because of

this the A34 was given a low order of priority, up till then only a handful of German heavy tanks had been encountered by British troops and there was little sense of urgency.

The A34 was to be based on the Cromwell chassis, but because of problems with trying to mount the 17 pounder in the Challenger, a new gun was to be installed. At first the US M1 76mm gun was considered, it had just been adopted as the

powerful than the 17 pounder, but was a far more balanced weapon and better suited to smaller turrets. Designed by Vickers-Armstrong, the H.V. 75mm gun was chosen for the A34, while Leyland Motors were given the task of building the tank in which it would be mounted. Leyland Motors had been building Cromwell's since 1942, and in addition had participated in several experimental projects. Work began on the A34

Resin, cast metal and etched brass parts of the Comet kit. I will build into one of three versions, World War 2, early-1950's and late-1950's.



main armament for the second generation Sherman. The second contender was known as the 'High Velocity 75mm' and was a shortened 17 pounder with redesigned chamber to take a shorter but wider shell case. The new gun was only slightly less

in February 1943 and by September a mock-up was ready for viewing. The General Staff gave the orders for production in October, the H.V 75mm gun now being designated the 77mm to avoid any confusion with the US 75mm gun. The first mild

Almost ready for painting, the different modelling mediums can clearly be seen, the result is a superb model far more detailed than any plastic kit in the same scale.

steel prototype A34 was delivered in February 1944 and gunnery trials began in March, by July some 20 vehicles were being tested. A string of modifications meant that the first production vehicle was not ready until September 1944.

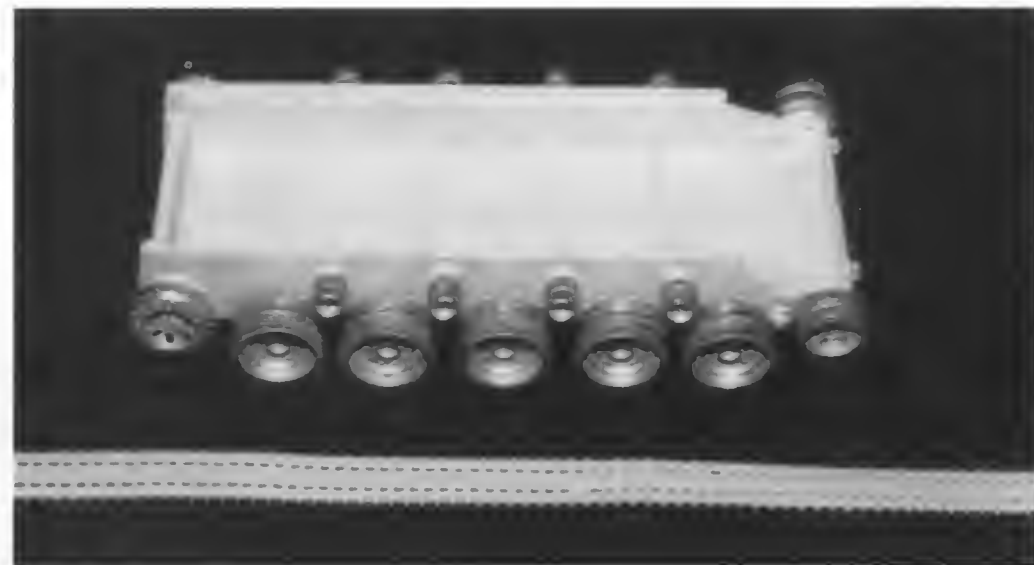
Looking similar to the Cromwell, the Comet was in fact 60 per cent new with higher hull and a new turret being the most obvious differences. Leyland Motors was one of the first to introduce welded construction on its Cromwell production line, and the Comet was all-welded right from the beginning. Like the Cromwell and Challenger, the Comet was powered by the 600 bhp Rolls-Royce Meteor V-12 water cooled petrol engine giving the 33 ton vehicle a power to weight ratio of 18hp/ton. The turret was power operated with the exception of gun elevation which was by handwheel, with mechanical back-up in case of electrical failure. A crew of five were carried, commander, gunner, loader /operator, hull gunner and driver. The 77mm gun was provided with 61 rounds of ammunition, as well as 5.175 7.92mm Besa MG rounds and 20 grenades for the bomb thrower. For dismounted action the crew were provided with a Bren .303 LMG with 600 rounds in addition to their personal weapons. The frontal armour was 101mm thick, similar to that on the up-armoured Cromwell, and similar to that on the Tiger I. Officially the Comet had a road speed of 29mph (47km/h) and a cross-country speed of 18mph (29km/h), but it was significantly faster, and it was one of the most agile medium size tanks to see action in the war.

The first Comet's were in service by the end of 1944 when it was generally eagerly accepted by crews used to less battleworthy tanks. This did not mean it did not have its detractors, some criticised the stepped front plates and would liked to have seen a one-piece sloped glacis plate as on the Panther and Tiger II. This would have meant a radical redesign and it is doubtful if the tank would have been ready in time to see action, as happened with its bigger brother, the Centurion. The 29th Armoured Brigade was chosen as the first Comet unit and the brigade reequipped in the winter of 1944/45 in Belgium. As the armoured element of the 11th Armoured Division, the 29th Armoured Brigade had first seen action on D-Day 6 June 1944 equipped with Shermans. It had

I always build the bottom hull first. Here the tracks have been glued together into one single length for each side, this is the easiest way to fit them to the wheels.

given a good account of itself in the fighting and was considered by many the best British Armoured Division in North Western Europe. By February 1945 the division was operational with four regiments of Comet Mk1's, the 23rd Hussars, 2nd Fife & Forfar Yeomanry and 3rd Royal Tank Regiment all of the 29th Armoured Brigade, as well as the division's Armoured Reconnaissance Regiment, the 15/19th Kings Royal Hussars. This was also good news for other British regiments as it allowed about 100 more Firefly's to be distributed between them.

The 11th Armoured Division took part in the Rhine Crossing concentrating on the Wesel bridgehead on the 11 March. On the night of the 23 March the crossings began under the cover of an artillery barrage of 3,500 medium and heavy guns. Once over the river the 11th Armoured Division moved on towards Lubeck on the Baltic coast. Fortunately the Comet never got the chance to prove itself, by this stage in the war the German army was in tatters and few tanks were serviceable. Only five weeks after the Rhine crossing the war in Europe was over and British and American forces



did see a little action against Jewish armoured trucks, one being captured at Rafah after it had been seen destroying an unarmed Arab lorry. On the second occasion an armoured truck made the mistake of mortaring a police station in the vicinity of the 4th RTR barracks. A couple of Comets were sent out and the offending truck was blown to pieces. The Jewish underground offered £250,000 in any currency to any British soldier willing to 'loose' a Comet, but there were no takers.

The Comet did not get to fire its gun again in anger. By 1950 it had been largely replaced by the Centurion, but several regiments continued to be equipped with



The rear quarter view of the Comet model showing the split 'Normandy Cowl' which was the most common type in use 1944-45.

linked up with the Russians along the Elbe river and Domitz-Wismar road. Soon after the cease-fire the 7th Armoured Division received Comet's.

At the end of World War 2 the 4th Royal Tank Regiment took their Comets to Palestine which was then under British mandate. Trouble was brewing as thousands of Jewish refugees were flooding illegally into the Arab country and terrorism from Jews against British and Arab began to rise alarmingly. The Comets

this tank, in particular those serving overseas. It remained in front line service until 1960, and also served with the Territorial Army. Only a few Comets were built as it was really only a stop-gap between the production of the Cromwell and the Centurion. However a few tanks were exported to Finland, Ireland and Burma in the 1950's. Had more been built then on the export market it would certainly have compared very favourably with the Soviet T-34/85 and the

American Sherman.

The Comet was the most powerful vehicle in its class to emerge from the Second World War. At 33 tons it was in the same weight category as the late-production Sherman (32 tons) and the T-34/85 (31.5 tons), the nearest German equivalent was the much larger 45 ton Panther. In terms of firepower the 77mm gun of the Comet was on a par with the 7.5cm KwK42 L/70 of the Panther, and significantly more powerful than the weapons mounted in the Sherman and T-34/85. Using APCBC ammunition the 77mm gun could penetrate 110mm of sloped armour at 1,000 yards, or with APDS 165mm at a similar range. Being 12 tons lighter the Comet was not as well protected as the Panther, but made up for this by being faster, more agile and very much more reliable. It was superior to the Sherman and T-34/85 on almost all counts. The Comet was exceptionally fast shooting and the 77mm gun was highly accurate both with armour piercing or high explosive ammunition. It was by any standard a fast and hard hitting tank ideal for battles of breakthrough and manoeuvre. In terms of firepower it closed the gap significantly between British and German armour, the only real criticism is that it was given such a low production priority which was to delay its entry into service. Had it been available in quantity for the Normandy campaign the war may well have been over by Christmas 1944 !.

MODELLING THE COMET

The A34 Comet has always been high on my list of most wanted kits, though I never held out much hope as I thought more important vehicles like the Cromwell would have been more attractive to the plastic kit companies. In the event only Tamiya has produced a kit of a late-war British tank, and they chose the Churchill Crocodile. However

when Accurate Armour began to produce resin cast kits of British Cruiser Tanks (amongst others) my hopes were rekindled. Earlier this year the company followed their Cromwell MkVII(F) with an A34 Comet Mk1a/b, the long wait was well worth while. To date I have built over 30 resin kits from manufacturers all over the world and I have no reservations in saying that the Accurate Armour Comet is the best I have seen. It is the usual combination of resin cast hull and turret with metal cast detail pieces and rounded off with a fret of photo-etched brass detail parts. The kit can be built as an early Mk1a as used by the 11th Armoured Division, or a post-World War 2 Mk1b with certain detail changes, optional 'fish tail' exhaust, idler wheels, smoke pots or dischargers are provided. Detail changes during the tanks service life are charted on the instruction sheet which makes it easier for the modeller.

In recent years the resin kit has come a long way, in terms of accuracy and detail they are far superior to the plastic kit. Quite simply the craftsman can put far more detail on a master pattern that will be cast in resin, than he can on a steel moulding die to produce plastic parts. For the foreseeable future the resin cast model will be the ultimate in detail and accuracy. However to get the best from a resin cast model modelling discipline will have to be honed to a fine edge, the resin kit is far less forgiving if a mistake is made. Preparation is of particular importance, all resin pieces must be checked for warpage and air bubbles, all cast metal parts for sink holes. Warping is corrected by bending back to shape in hot water or by using a hair dryer (hot water is better for larger thicker parts). Air bubbles are best filled by drilling out and gluing in a piece of plastic rod, filler putty is useful if a lot of holes need attention and is also best for filling sink holes.

Construction is usually fairly



straight forward once the excess resin has been trimmed off. Parts are best removed from their sprue with a very sharp scalpel type knife or a razor saw. The type of resin companies such as Accurate Armour, Azimut, Cromwell Models and NEC use is softer and resistant to chipping, but there are lots of companies around still using the older brittle resins which need much more care in handling. Metal parts are trimmed then polished with a mini-drill or washed in warm water with an old tooth brush. The worst part of building resin models is the need to use superglue in construction, this gives only a few seconds for fitting the pieces together before it bonds. Once pieces are bonded they can be almost impossible to separate again. For this reason make sure the fit is correct by several 'dry runs' double checking the fit before glue is introduced.

The Comet kit can be built in several different versions, wartime, late-1940's and late-1950's. I chose to build the wartime version as used by the 11th Armoured Division 1944-45. This meant that before construction began the brackets on the turret for the smoke dischargers were cut off, and on the exhaust box the locating holes for the 'fish tail' exhaust pipes were filled. To avoid confusion all the extra pieces not needed for this model were sorted out and resigned to the spares box. Building this model took me several evenings at a slow and easy pace. I used Milliput to line the interior of the hull pieces to give extra strength and rigidity. The assembly is not complicated and the 160 odd pieces which go to build this model disappear quite quickly. My only problem was with the tracks and road-

wheels, the track must be snug against the hull or you will find the closer plates on the front and rear of the track guards will not fit properly. The finished model is a superb replica of this interesting vehicle, the last in a long line of British Cruiser Tanks built between 1936 and 1944.

Photo-etched brass parts are now almost mandatory for the 1:35th scale model, and those companies that produce them are doing a roaring trade. Since 1989 most new Accurate Armour kits have included such sheets and these provide such items as sight cages, antenna mounts, track guards and mesh covers for exhaust pipes etc. The Comet comes with quite a large fret which provides parts for two different style of exhaust cowl, track closer plates, gun sight cage, antenna mount, track guard supports and other small details. This fret should first be carefully washed in warm water to clean off any flux or other grease which could prevent bonding. Carefully remove parts with sharp modelling scissors such as those sold by Trimaster, or with a heavy duty type modelling knife (not a Scalpel). Scrape the area to be bonded and carefully apply some superglue with a cocktail stick or something similar. For placing small parts a pair of fine point tweezers are ideal. If parts are to be bent to shape, then a straight edge such as a steel rule must be used, never try to bend using your fingers alone. Luckily the Accurate Armour frets are well thought out and the parts seldom give problems.

CAMOUFLAGE AND MARKINGS

British armour in the 1944-45 period were painted in Olive

The finished model in pristine paintwork. Tanks in battle were often very battered but to simulate this on such a model I feel would be sacrilege.

Drab No15, sometimes referred to as 'Khaki Drab'. For this I use Humbrol Z159 with a touch of matt black. All the Comet's in service in North West Europe would be painted in this colour. No camouflage patterns have been observed on vehicles

belonging to this division. (the 11th Armoured Division was the only one to use the Comet in action in World War 2). In the immediate post-war years the colour was changed to Deep Bronze Green, colour Z75 in the Humbrol range.

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FROM the 'Armoured Knight Series' of 1:12 scale figures this kit represents an example of German Gothic court armour of the fifteenth century. Retailing at around £6.20 it is rather on the expensive side for what is in fact quite a straightforward (though admittedly good) kit.

Quite who Archduke Siegmund was the kit packaging fails to explain (except for his dates: 1427 to 1496) though a section of the box has, in one corner, what may well be a potted biography. Unfortunately this is in Japanese with no English translation. What the boxtop does explain is that all the kits in this series are based on exhibits in the Kunst historisches Museum in Vienna - clearly a place well

worth a visit if you happen to be holidaying in Austria.

Other kits in the series also represent historical personalities rather than anonymous suits of armour. These include Frederiek 1, Emperor Maximilian II, Philipp Graf von Hessen and Elektor Otto Heinrich. All are from roughly the same period but illustrate quite a wide variety of armour styles ranging from the pointed elaborate Gothic to the plainer sixteenth century examples. A few of these kits displayed together ought to look very impressive indeed - and being 1:12 scale they are, of course, compatible with the old Airfix kits in this scale especially Richard I, Edward the Black Prince and Charles I all of whom

Joining the legs to the feet.



Imai's Archduke Siegmund

By Greg Kerry

are portrayed wearing various types of English armour.

CONSTRUCTION

Just as easy to put together as the old Airfix figure kits this Imai product consists of only 34 parts. However, in building my model I did find that one or two small improvements were possible.

ARMS, FEET & LEGS

With each of these sub-assem-

glued together with their joints cleaned up.

Before doing this I instigated the first major improvement. Both the gauntlets' finger sections look unnaturally straight and rigid so I sawed through the end finger joints, filed the cut edges at a slight angle, and then glued the finger tips back on so that the hands had a more natural inward curve.

I then glued the huge battle axe together thinking it would be possible to have the figure grasp-



The axe gripping hand after modifications.

blies in two parts (as might be expected) the first task is to glue together the arms and feet - the legs are joined later trapping the feet in a substantial hinge-like joint. I thought it best to clean up the joint on the feet before doing this. Indeed, I cleaned up the joints on each individual sub-assembly before fixing them all together - making for a much easier job than leaving this work till last. Note that the instructions show parts 17 and 18 (knee side plates) added here but I left these off till much later.

The instruction sheet also shows the gauntlets pieced together directly onto the arms, however, if the lower attachment points on each of the wrists are cut off the gauntlets will slide on to the remaining projections quite easily once they have been

ing this rather than simply having the weapon standing beside the figure in the base support as Imai intend. Normally, with a figure of any scale, it's more usual to file and bend the subject's hand to make its grip appear realistic. I decided to try a different approach here by leaving the right hand as it now was (i.e. with the fingers slightly curved) and instead file the axe's haft down to enable it to be comfortably slipped into the gripping hand. This worked very well indeed. After a dry fit the axe was removed for painting separately while the gauntlets too were set aside for the moment.

TORSO AND HEAD

The marvelously Gothic-shaped helmet is provided in two parts



Sawing an eye slit into the helmet before its construction.

but with the eye slit as a solid depression. I chose to saw this out working on each half separately before gluing the two together. In retrospect this would probably have been better done after the helmet had been assembled. The saw cut incidentally is just the right width. The head and neck assemblies were also

the armpit but because of their length and weight they were quite unwieldy; the lance rest provided some much needed support. This is shown very well on the boxtop artwork. On the kit it has been much simplified and is in rather the wrong position: too high on the breast. To remedy this I cut and sanded



The torso under construction.

joined at this point and set aside to dry. As was the main torso but not until a further piece of corrective surgery. On the right breast is a small flat bracket with what looks like a small prong coming out of it. In reality this should be a lance rest: long heavy weapons these were carried (on horseback) tucked under

away all sign of this from part 7 and then glued the torso halves together leaving them overnight secured with an elastic band. With this removed I cut a replacement bracket for the lance rest from thin plastic card cementing this back on the breast plate but more in line with the arm pit. The rest proper was

Modifications to the ear and the side of the head.



not added till other construction was complete.

COMPLETION

Legs were fixed to the torso first along with the neck protector. Then arms and gauntlets were added after which came that lance rest as was explained. This



The legs being attached to the body.

was cut from a length of sprue affixed to a hole drilled in the card bracket and chest moulding. Next I completed all major painting but I would advise you to do this only after the figure has been secured to the base - more of which anon.

One of the least convincing aspects of the kit is the two part head. Once glued together I exaggerated the hair texture by stroking across it with a hot needle (held in a pin chuck drill and heated in a candle flame). Then the ears were built up along their top edges with Milliput as they were simply too insubstantial otherwise. If you choose to glue the helmet directly to the figure's head of course all this work will be unnecessary.

THE BASE

The second most annoying thing about this kit: the two-part base is simply too small in diameter to accommodate the figure's elongated Gothic footwear. With the toes projecting over the edge it just looks ridiculous (probably alright for the other figures in the range provided with the same

base though as they all sport more normal sized feet).

Looking around for an alternative base I came upon something I've used before: a particular type of coffee jar lid, in plastic, which, with its threaded section sawn off, makes a very presentable little base. Its hollow middle section was filled with



The body is painted with a silver and then toned down with a matt black dry brushed over.

finishing this figure again I would choose a different method: probably painting it in a coat of toned down (with matt black) silver and then emphasising the edges of armour plates with yet darker silver or perhaps even very dark grey. This really calls for some experimentation.

FINAL DETAILS

With the main painting complete the head was added. Then the sword and belt. A replacement buckle was made for this using stretched sprue as the kit made no provision for the belt to be fastened properly.

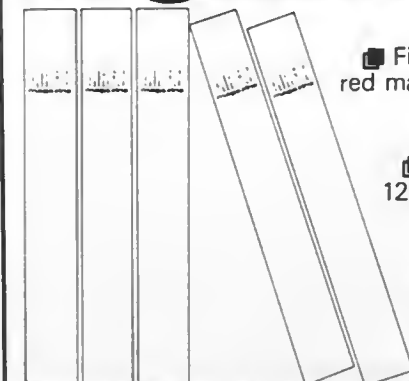
Securing the sword belt.



Last detail of all was the nameplate. In the kit this is provided in the form of a small decal - with characters so tiny they are all but impossible to read even with a magnifying glass. To remedy this the best I could come up with at short notice was a simple typewritten paper glued to a card backing. A more impressive nameplate could be made up using dry-print lettering in Gothic style - which can be found in most office supply shops though at a price.

In conclusion then a nicely impressive and rather unusual kit but still over-priced and with one or two annoying flaws.

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ACCENT ON ARMOUR



The CVR(T) Family Of AFV's

By Phil Greenwood and Paul Woodman

ALVIS of Coventry, the traditional suppliers of light armour to the British armed forces, were asked by the Ministry of Defence to develop a range of armoured vehicles to replace the Saracen/Saladin series. The requirement was for a Combat Vehicle Reconnaissance (CVR), with one design being on Tracks (T), and a parallel vehicle on wheels (W). The CVR(W) was later named the Fox and its design owed much to the 'Big Wheel' Ferret Mk4, but the CVR(T) was entirely new and leaned heavily on American experiences with light armour. Design work began in the mid-1950's, and it was soon decided that no single vehicle could fill all the requirements and so a family of vehicles would eventually emerge. To be air-portable by the transport aircraft of the day the combat weight was to be kept down to 8.5 tons making it much lighter than the Saladin it replaced. To achieve this the Alvis company took advantage

of American advances in the manufacture of aluminium alloy armour for the M113 and M551 vehicles. By 1965 the TV15000 test vehicle was on trials and this led directly to the CVR(T) with

the design being approved by the MoD in September 1967. An order was placed for 17 prototype vehicles to be designated the FV101 Scorpion, the first of which was unveiled in January

Accurate Armour's first kit of the Scorpion represents a vehicle of the early 1980's.

1969. Field trials were outstandingly successful and an order for 2,000 vehicles was signed in May 1970, with Belgium also joining the programme a few months later placing a further order for 700 vehicles.

The CVR(T) family was to consist of seven basic variants, the FV101 Scorpion, FV102 Striker, FV103 Spartan, FV104 Samaritan, FV 105 Sultan, FV106 Samson and FV107



Accurate Armour updated Scorpion and Scimitar kits.



The finished model of the new Sultan Armoured Command Vehicle.

the Armoured Reconnaissance Regiments, the primary user of the CVR(T) family.

The Swingfire is a second generation wire guided anti-tank missile able to defeat armour up to 800mm thick more than enough to destroy any tank with conventional armour. Before launching the rear mounted launching bins are raised to 35 degrees. The missiles can then be fired and guided from inside the vehicle, or from a distance using a remote control unit. The missile has a range of 4,000 metres at a speed of 415 mph being powered by an IMI two-stage rocket motor. The missile was first used in the FV438 of the early 1970's, and has been progressively upgraded with new electronics. It uses a thermal imager for night/foul weather operation.

FV103 SPARTAN

This version also entered service in 1978 and was built along side the Striker. vehicle numbers are in the same blocks. Built as an Armoured Personnel Carrier (APC) for high priority combat

Scimitar. Later the family was increased by a further two vehicles the Stormer and Streaker which are variants of the FV103 Spartan Armoured Personnel Vehicle. The Scorpion was the first to enter production in 1972 with the first vehicles being issued to the 17/21st Lancers in 1974 and the 14/20th Kings Hussars in 1975. It was followed in production by the similar FV107 Scimitar which is identical except for the armament. On its entry into service the Scorpion was the worlds fastest tracked vehicle, able to attain speeds of over 60 mph (100 kmph), and also it was one of the smallest. The Scorpion weighs just under 8 tons fully loaded and it is little bigger than a Ford Transit van. Because of the low weight the ground pressure is only 5lb per square inch, much less than that of a laden infantryman, and as such it is too light to detonate many of today's anti-tank mines. All British CVR(T)'s are powered by a Jaguar J60 4.2 Litre petrol engine which develops 190 bhp giving a power-to-weight ratio of between 24hp/ton to 21.7hp/ton depending on the variant.

(High Explosive Squash Head), Canister and Smoke, a total of 40 rounds are carried. At first this was used with a .5 inch ranging machine gun giving accurate fire up to 2,500 metres, but since the early 1980's a laser sight has been fitted increasing the range to 5,000 metres. Secondary armament is provided by a 7.62mm co-axial machine gun

hour! This round is less effective against 'spaced' or 'laminated' type armour, but even so the shock wave would probably disable the vehicle.

FV102 STRIKER

The Striker entered service in 1978 and is the tank destroyer of the CVR(T) family armed with



FV101 SCORPION

This is a dedicated reconnaissance vehicle looking like a small tank but having high grade surveillance equipment. Traditionally British reconnaissance vehicles have been small, fast and quiet, and the Scorpion fits the bill exactly. They are not seen as offensive vehicles and the armament is purely for defence should they have to 'fight their way out' of any situation. The Scorpion is armed with a 76mm L23A1 rifled gun, a light weight version of the weapon fitted to the Saladin armoured car which the Scorpion replaced. The three main types of ammunition used are HESH

with 3,000 rounds. The vehicle has full NBC (Nuclear, Biological & Chemical) air filtration system as do all other members of the family used by the British army.

The L23A1 gun is effective out to 5,000 metres, its main anti-tank round is the HESH which can destroy any of the early generation MBT's such as the T-55, T-62 and Type 69, and can also disable newer types such as the T-72. It works by detonating a 'pancake' of explosive on the outer skin of the tank, this causes a 'scab' of steel to detach from the inner surface and fly around the interior at speeds of up to 5,000 miles per

The Scimitar, apart from armament, is identical to the Scorpion. The Chieftain Bins do not come with the kit, but are available from the 'Modern British AFV Stowage Bin' set.

BAe Swingfire heavy anti-tank missiles. Designed to look like the Spartan APC, the Striker is indistinguishable at all but a close distance when its missile launchers are lowered. This version weighs in at 8.3 tons fully laden with its complement of ten Swingfire missiles. Five missiles are carried in the launch bins and a further five reloads are carried in the hull. The Striker has similar automotive performance to the Scorpion and was designed to provide anti-tank protection to

teams it carries a crew of three and four other soldiers. Priority combat teams include Pioneer/Engineer assault teams, Milan ATGW teams, Blowpipe/Javelin SAM gunners and others. This is one of the most widely used versions of the CVR(T) family. One of the newest versions is the Spartan MCT (Milan Compact Turret), an anti-tank vehicle mounting twin Milan missile launcher tubes. The Milan is the British army's standard anti-tank



A missile armed Spartan MCT. The detail is superb.

weapon, in its standard form it will penetrate 675mm of armour. However new two-stage war-head versions, the Milan 2T, will penetrate reactive or spaced armour up to 1,000mm thickness and are faster in flight than the standard weapon. These vehicles now provide anti-tank protection to Armoured Infantry Battalions.

FV104 SAMARITAN

First of the 'big hull' versions, the height of the roof has been raised from 2.26 metres to 2.41 metres, and it is also one of the heaviest versions at 8.7 tons. The Samaritan as the name would suggest is an armoured ambulance able to carry four stretchers or five sitting wounded. Because of the extra size and weight the Samaritan is a little slower than other members of the family except the similar size Sultan, and the Samson. This version usually carries a crew of two. The vehicle entered service in 1977 and like the Spartan it is widely distributed throughout the army.

FV105 SULTAN

An armoured command vehicle (ACV) to replace the Saracen ACV and is used by all Headquarters formations. Like the Samaritan it entered service in 1977, the first ones going to the Royal Armoured Corps. A crew of up to six men can be carried along with up to three staff officers, once deployed a tent can be erected at the rear for more space. Clansman radio communications are used as well as special computers for specific tasks. Automotive performance is similar to the Samaritan which shares a similar hull shape. The commanders cupola is fitted with a

Accurate Armour's 'Desert Storm' Scorpion. The 'Desert Storm' colours were sand (Humbrol X93) overall.

personnel. It is the heaviest of the family at 8.8 tons, even though it uses the original low hull.

FV107 SCIMITAR

Production of the Scimitar followed on after the Scorpion making it the second of the family to be produced, the first vehicles entering service in 1976. It differs from the Scorpion in the armament, this vehicle mounts an L21 30mm Rarden automatic cannon capable of firing 90 rounds per minute. The Rarden is more suited to engaging other light armour such as the Soviet BMP and American M113, and so can be used to break up enemy APC/IFV formations. It now carries out the bulk of the British army's reconnaissance requirements equipping the Armoured Reconnaissance Regiments and the Reconnaissance Platoons of Armoured Infantry Battalions. It is the lightest of the family weighing 7.75 tons combat loaded, performance is similar to the Scorpion.

FV106 SAMSON

Entering service in 1979 it was the last of the family to attain production from the original requirement. It is based on the Spartan but is fitted with a 12 ton winch and 750 ft of steel hawser. This enables the Samson to recover any of the CVR(T) family as well as heavier vehicles such as the FV432. A spade ground anchor is fitted to the rear of the hull, and equipment includes tow bars, 'A' frame jib, snatch blocks and a comprehensive range of tools. This version is used by REME Light Aid Detachments making it the most specialised of the series. A crew of three men is usually carried and the rear compartment housing the winch and tool chests has little room for any additional

The Rarden is a highly accurate weapon, some reports claim that it is the most accurate weapon of its type in service. The maximum range is in excess of 4,000 metres and the cannon can be used against both ground, and air targets such as slow flying helicopters and attack aircraft. The cannon fires five-round clips either single shot or fully automatic, a good crew can get all five rounds through a steel helmet at 1,000 metres.

STREAKER

This is a new version of the Spartan built in several special purpose variations. The first was a high-mobility load carrier similar to the American M548, but to date it has not been adopted. But two other versions have been

more successful, the first being the Streaker mine layer which entered service in 1990 and saw action in the Gulf War. The second is an anti aircraft vehicle armed with the Shorts Starstreak high velocity point defence SAM. This is one of the worlds most advanced missiles with a speed of Mach 4.5 and a range of at least 8,000 yards. This new vehicle is due to enter service next year with the British army.

FV4333 STORMER

Best described as an enlarged Spartan, the Stormer is not a true member of the Scorpion family and carries a different FV number. Combat loaded it weighs 10.7 tons, some 2.6 tons heavier than the Spartan, dimensionally it is .37 metres longer, 17 centimetres wider and 12 centimetres higher. It has an extra road wheel each side to take the extra weight and it is powered by a 200 bhp Perkins diesel engine. The Stormer was developed by the Royal Ordnance Factory in 1977-79 and the marketing and manufacturing rights were purchased by Alvis Ltd. in 1980. The initial model could carry a crew of three plus eight troops. With the FV510 Warrior soon to be ready the British army had no requirement for the Stormer, but it has been offered for export.

SCORPION-90

This vehicle is based on a Belgian version of the Scorpion mounting a 90mm Cockrill gun in place of the usual 76mm weapon. The Cockrill gun fires a HEAT (High Explosive Anti Tank) round as the main tank killing weapon, the accurate range is in the order of 2,000 metres. The vehicle was tested by the British army and the US Marine Corps but was rejected by both for various reasons. The



Scorpion-90 is a ton heavier than the standard Scorpion and the speed has been reduced to 45 mph. Some reports state that the vehicle is a little too top-heavy.

IN SERVICE

The Scorpion family have earned a fine reputation for performance and reliability since their introduction and have given trouble free service. In many ways the family is unique but it is a formula that has proved highly successful both on NATO exercises and in action. The vehicles are small and fast making them ideal for stealthy reconnaissance, the specialist nature of the vehicles makes it easier to train crews to one weapon system. Most other manufacturers particularly in the Soviet Union and United States pack several weapon systems on their vehicles, this means they are larger and the crews need more training. The armour is enough to protect the crew from small arms fire and from shell splinters, but the main protection is the agility under all battlefield conditions. For many years the US Army has wanted to purchase members of the CVR(T) family to replace M113's and Hummers, but Congress continually refuse to provide funds.

As part of the British 1st Armoured Division all members of the CVR(T) family saw action in the recent Gulf War. Scorpions are used by Recce Troops of the Armoured Regiments, while the Scimitar equips the Recce Platoons of Armoured Infantry Battalions and along with the Striker, is the primary equipment of the Reconnaissance Regiments. Other members of the family are distributed among

Armoured, Infantry, Engineer, Pioneer and other formations. The 16/5th Lancers and 'A' Squadron of the Queens Dragoon Guards provided reconnaissance for the Division during the conflict. However after the first day of the ground offensive the 16/5th Lancers, with the QDG attached, were brought together with the Division's artillery regiments to form a third Brigade.

The first direct action involving the 16/5th Lancers took place on the 26th February when Iraqi armour fleeing the Challengers of 7th Armoured Brigade came into contact with the regiment. Strikers of 'C' Squadron promptly destroyed two T-55 tanks while Scimitars engaged APC's with their 30mm cannon. A dust storm made visibility poor and not even thermal image sights could see further than 400 metres. At the same time Scimitars of 'A' Squadron QDG destroyed at least one T-55 and three MTLB APC's which had emerged from the gloom directly in front of them. On the southern flank 'A' Squadron 16/5th Lancers destroyed a T-62 after it had been hit over thirty times by 30mm APSE rounds. A Striker despatched a second T-62 some time later. In the fight one Scimitar was hit by a single machine gun bullet which penetrated the side armour but did no further damage and the vehicle carried on fighting. The only casualty was a REME M548 which had to be abandoned as it broke down while being chased by a T-59 tank.

The next day 'A' Squadron QDG left the 16/5th Lancers to join 7th Brigade, while the Lancers cleared Iraqi positions

by directing aircraft and MIRS batteries onto the targets. The regiment ended the war in northern Kuwait after covering some 300 miles since the start of the campaign. In all the regiment destroyed two T-62, six T-55, 12 x MTLB, two K-63 APC and at least four trucks, all by direct fire. It does not take into account the vehicles and equipment destroyed or damaged by the air and artillery attacks directed by the regiment during the short campaign. The primary task of the regiment was the eyes and ears of the R.A. gun and missile batteries. Against Iraqi heavy armour they were badly out-matched, but training and aggressive tactics served the regiment well.

MODELS

Airfix released a 1:76th scale kit of the Scorpion/Scimitar in the mid-1970's, it was and still is a nice little model. Cromwell Models followed this up with resin kits of the Spartan, Sultan, Samaritan and Striker all to 1:76th scale and cast in resin. These are some of the best models in the Cromwell range and the detail is truly superb. In 1988 Barton Figurines released a 1:35th scale kit of the Scimitar in white metal and photo etched brass parts. I eagerly purchased one of these kits but was not impressed with the quality of the castings, pit marks spoiled much of the detail. A few months later Accurate Armour released kits of the Scorpion and Scimitar also in 1:35th scale, but this time cast in resin with photo etched parts. These kits introduced metal parts to what had previously been a range of all resin models. These

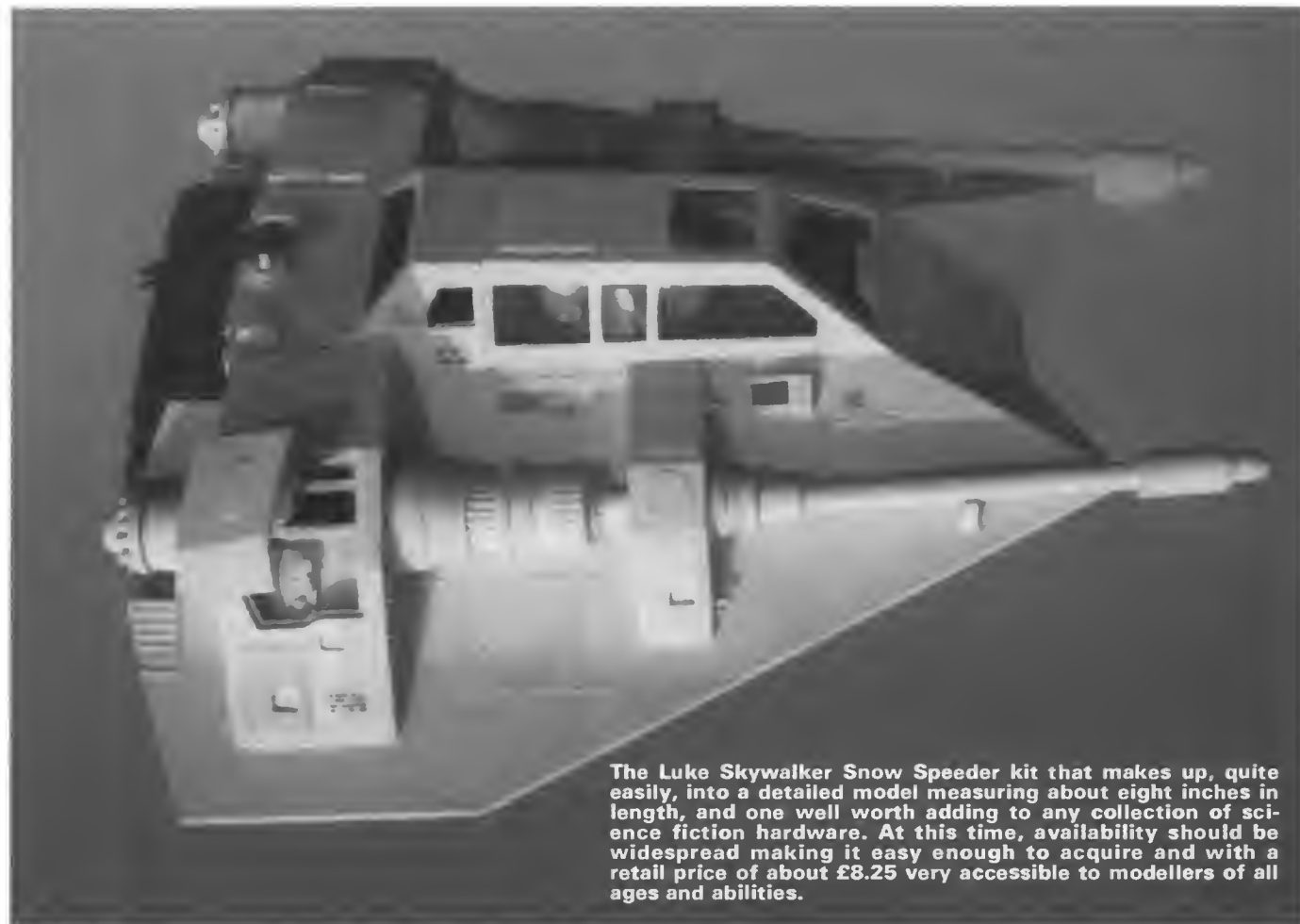
Cromwell Models 1:35 scale kit of the Spartan Armoured Personnel Carrier. A good model for beginners.

were nice kits, certainly among the best that had been cast in resin up to that date.

These Accurate Armour kits depicted vehicles as they appeared during the late-70's without swimming screens and front track guards, but with the rear stowage bins. Earlier this year Cromwell Models released a fine kit of the Spartan APC manufactured all in resin. The kit is accurate and there is a lot of fine detail including basic interior detail of the fighting compartment. These models complement each other well, however accurate Armour case back on the scene with re-vamped kits of the Scorpion and Scimitar, along with new kits of the Spartan, Spartan MCT and Sultan. The new Scimitar/Scorpion kits depict vehicles in service from 1990 and have the new storage bins just recently fitted to the CVR(T) fleet. Though they carry the 'Gulf War' tag, these vehicles have no special Gulf War significance and are similar to other vehicles in service both in Germany and the UK. The kits have also been improved with new roadwheels, sprockets, idlers and track and the hulls have been reworked to cut down instances of warping.

The Spartan, Spartan MCT and Sultan are new kits with a high degree of detail and include more photo-etched brass parts. There is no interior detail provided but all hatches are openable so that crew figures can be mounted. Accurate Armour have released several figures representing modern British AFV crew, and these are suitable for mounting on any of these kits. They use the new trackwork and wheels introduced on the 'Desert Storm' Scorpion and Scimitar kits. The surface detail is a little finer than on the Cromwell Models representation, but on the negative side it is more tracks to build, in particular the trackwork.

For the future Accurate Armour have already announced forthcoming kits of the FV104 Samaritan, FV102 Striker, FV106 Samson and Streaker mine layer. There will also be a kit of the Scorpion-90 and the Starstreaker SAM vehicle. At least four of these kits are due for release by the end of this year, with the two Streaker kits in 1992. By the time this goes to print Cromwell Models should have released their kit of the Spartan MCT in 1:35th scale. The company has also stated an interest in producing kits of other members of the CVR(T) family though at the time of writing only the Spartan MCT has been mentioned for release this year.



The Luke Skywalker Snow Speeder kit that makes up, quite easily, into a detailed model measuring about eight inches in length, and one well worth adding to any collection of science fiction hardware. At this time, availability should be widespread making it easy enough to acquire and with a retail price of about £8.25 very accessible to modellers of all ages and abilities.

LUKE SKYWALKERS SNOW SPEEDER

By Richard Randle

ONE of the most interesting aspects of science fiction films is the vast array of 'hardware' designs, but perhaps none more



The first stage of assembly concentrates upon the cockpit interior detail, of a base plate incorporating the crew seats, and instrument panels. One each of these have to be fitted at either end of the main piece, the rear unit having the addition of a viewing target scope. Now is the best time to paint these in a matt black colour, not forgetting the forward instrument panel.

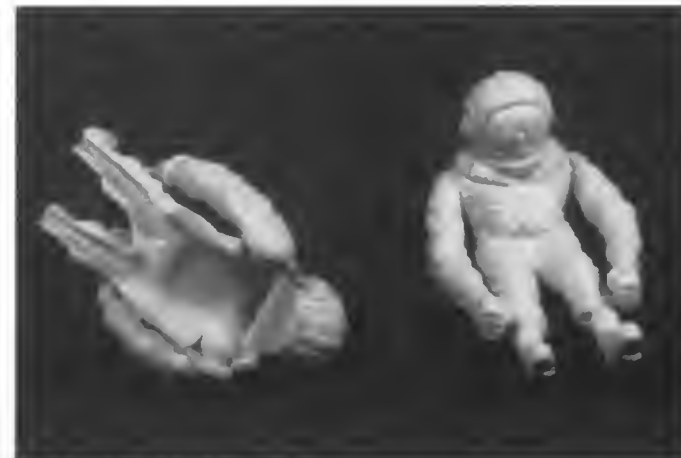


The MPC/ERTL 'Luke Skywalker's' Snow Speeder consists of 63 flash free parts, moulded in a suitable white, with decal sheet, all of which is packaged in a lavishly illustrated box. It might be a good idea to paint or spray all of the parts a matt white before starting on the construction although this is well up to the individual.

so than those featured in the Star Wars trilogy.

Fortunately for Sci-fi buffs many of the space and planet bound craft have been produced by MPC and imported into this country under the ERTL banner, including such favourites as the Millennium Falcon, Star Destroyer, X and Y fighters, Tie Interceptors, At At, Speeder Bike and the Snow Speeder. This latter item was used by the Rebel Alliance in its fight against Imperial At Ats on the planet Hoth, which featured in the second Star Wars film 'The Empire

Strikes Back'. The tactic employed in destroying the heavily armoured At-Ats (All Terrain Armoured Transport) involved attachment of a cable launched by the gunner of the crew, and flying, quite literally, circles about the legs. Thus the cable disables the walking vehicles, bringing them to their knees and inevitably destruction. Those fortunate enough to have seen the film will no doubt be suitably impressed by the special effects used in this particular part of the story.



The crew figures receive both their arms and the back to their respective helmets, but when complete they do not really have a very realistic appearance, being somewhat short in the leg department. These are painted and then attention is turned to the craft itself.



The cable harpoon weapon locates onto the rear deck just aft of the gunners crew position, and this is retained by an inner plug, that allows the harpoon to rotate.

Further items to fit at this stage are the radiator unit, with brakes, to the rear, the cockpit interior component beneath the canopy hood and the base plate to the lower hull part.



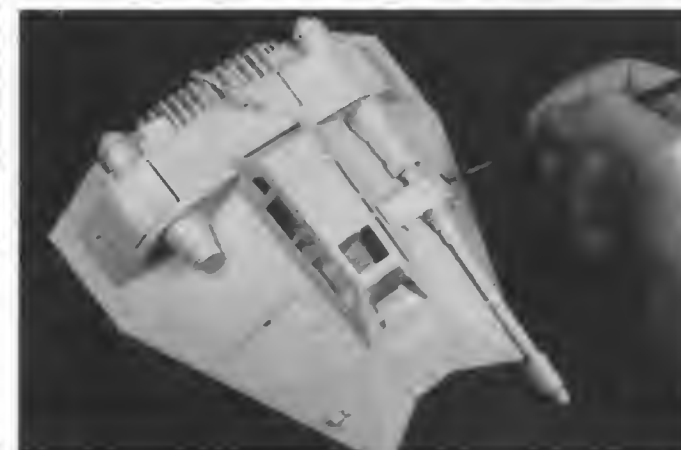
This completes the basic hull detail so the two halves are mated, aided in small measure by the use of wooden pegs around the periphery to maintain the necessary pressure until the glue sets.

Whilst this is happening the two main weapons, presumably some kind of laser canon, are produced from several sub assemblies that run the length of the vehicle. However, before the rear most are fitted, the airbrakes have to be located into their respective housings, and then the covers added.



By doing this each will retain the ability of being either open or closed, much as the modeller may wish. With this completed the laser canon assemblies are glued onto the fuselage/hull, thus finishing the model's construction.

If you did not paint the parts before construction began, then now is the time to do so, the various transparent sections being first masked with something like Humbrol Maskol or its equivalent. Its colour scheme could be a bit of a problem because the box art deviates from the film version, the latter of which I leaned towards in the final finish. However, an overall white cannot be far off the mark. Decals were now applied to the hull using both the illustrated instructions and the box lid for guidance.



The two crew figures were glued into their respective seats within the cockpit. Despite their strange dimensions really added the detailed finish to the craft.





The 'lucky lady' on standby at an AFB dispersal point awaiting the order to fly off upon yet another mission.

development of the technology and budget overruns the project was suspended by June 1977, with but three of these aircraft assembled, and used for evaluation tests. In fact these, and an extra B-1 subsequently built were used to iron out the many difficulties encountered, particularly at the cutting edge of new technologies, until 1981 when the programme was reinstated. Strategic Air Command ordered 100 aircraft and the first B-1B flew on 18 October.

There were significant differences between the earlier B-1 and the B-1B most notably with the increase of ordnance capability and fuel increasing gross weight from 395,000lb to 477,000lb. This together with external airframe modifications, stealth features, radar absorbent materials, magnetic radar, absorbent polyurethane camouflage paint scheme, enhanced its capabilities to make it a very much more potent aircraft, especially so in comparison to its B-52 counterpart.

First deliveries were made to the USAF on 7 July 1985 and the last of the 100 on 30 April 1988, equipping four SAC bomber wings, examples of all of which are included on the Airfix B-1B decal sheet. These are the 28th Bombardment Wing, SAC, USAF Ellsworth AFB, South Dakota 1987, 96th Bombardment Wing, SAC, USAF Dyess AFB, Texas 1988, 319th Bombardment Wing SAC, USAF Grand Forks AFB, North Dakota 1990 and the 384th Bombardment Wing SAC, USAF McConnell AFB, Kansas 1988.

Specifications for the operational B-1B's or as they became known in 1990 'Lancer', makes

visibility and advanced defensive and offensive avionics.

The first roll out took place on 25 October 1974 and flew on 23 December. However, due to the problems encountered in the



The cockpit components are put aside to dry and attention is now directed to the wings. Each of these are made from two halves, using wooden pegs and clamps where appropriate to ensure a secure fitment. Take note that a plastic rod locates onto the inner wing edge, to facilitate a synchronous movement of the wings, this being after all a swing wing or variable geometry aircraft. A little filler putty will be necessary along some sections of the wing leading edges, but this presents no major problems.



When the wings are ready the whole is eased into place upon the lower fuselage after which fore and aft bulkheads are fitted, taking care to ensure the correct fit in their respective locations. It is a good idea to test fit the upper fuselage onto the lower to check the bulkhead alignment.

interesting reading including a 147ft length, 136ft 8.5in span (maximum), 78ft 2.5in span (minimum) and 33ft 7.25in height. The Lancer has an aircrew of four, two pilots, defensive systems operator and offensive systems operator for the ordnance capability that includes 20 AGM-86B/AGM-129A or 38 SRAM-A/SRAM-2 missiles or 12 B28/B43 or up to 24 B61 B83 bombs, all of which are nuclear weapons. On the conventional side the three internal bays plus external hard points allow the carrying of 38 Mk 84 2,000lb or 128 Mk82 500lb bombs.

The whole load, to a maximum of 125,000lb can be taken to a maximum unrefuelled range

of 7450 miles at a top speed of 804 mph, utilising to the full the performance of the four General Electric F101-GE-102 turbofans each rated at 17,000lb dry thrust or 30,000lb with after burner.

The Rockwell B-1B or Lancer, was one of the major releases from the Airfix stable in 1991 especially so for its very size which is impressive enough for most tastes. As it comes the kit is quite straightforward requiring no really unusual constructional techniques as shall now be revealed in the following review.

Review example supplied courtesy of Humbrol to who I would like to extend my appreciation, particularly to Beverly A. Pyatt, whose material assistance made this possible.

The cockpit interior assembly is attached to the upper fuselage and this in its turn is mated to the lower fuselage. Again pegs are used in conjunction with rubber bands to provide an adequate pressure. The two halves are not flush fit departing a little from each other's profile just forward of the wing roots. Some judicious pulling, pushing and eventual filling will make good this problem.

If the model is to be featured 'wheels down' then the nose cone will have to be weighted before it is attached to counter balance that of the tail assembly. There is plenty of room for this in the nose cone itself as well as in the area just forward of the flight deck unit. So with a suitable weight, 27 grams, located in position the nose cone is then affixed. The join between this and the fuselage proper is filled by putty.



Like the wings the horizontal stabilisers are formed from two halves using pegs for pressure as the glue is applied. The various parts fit flush in relation to one another although some sanding is necessary to smooth down the points where they were joined to the sprue. Next to attend to are the tail section including a part that protrudes for connection to the stabilisers thus allowing a degree of movement, or variation in altitude. Whilst this sets, the tail assembly is built retaining the parts using rubber bands. The horizontal stabilisers fit onto their respective 'spurs' taking care to use a minimum of glue and preserving their degree of movement. Care is taken over alignment of these parts in relation to each other and the tail assembly itself.



When this has set firmly it is attached to the upper rear fuselage, at the same time as the tail cone, or pod.

A gap is all too obvious between these various pieces and once again filler putty is the order of the day, this being applied then sanded smooth with a low grade wet 'n' dry paper.



The internal detail of the engines consist of a series of baffles or deflections, first located into one of the lower halves onto which is mated its associated top part. Clamps were used to maintain pressure, though no doubt heavy rubber bands would do just as well, and the two engine assemblies are put aside to set.



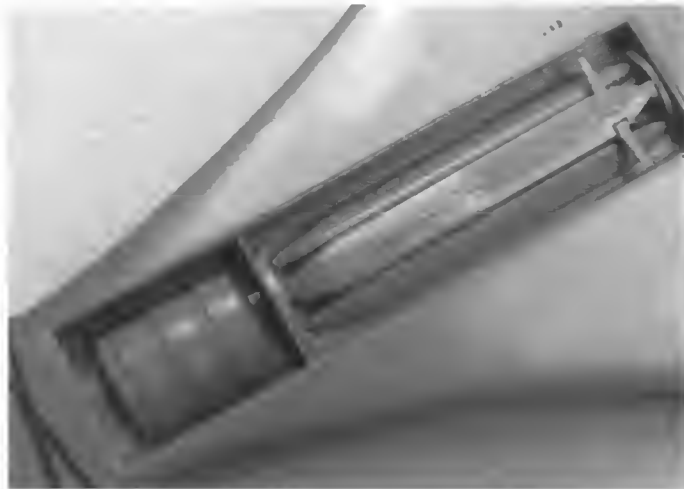
JUNE 1970 saw the awarding of a full scale development contract to build the Rockwell B-1 bomber, envisaged as the replacement for the veteran B-52s that equipped the SAC

squadrons worldwide.

As the next generation aircraft, it encompassed many new technologies, resulting in the use of turbofan power plants, variable geometry wings, low radar

Construction begins with the cockpit interior, consisting of a base unit, rear bulkhead, aircrew ejection seats, and other respective control columns. These are assembled in this order and then the whole is painted after which a control panel decal is applied. Two aircrew figures are included but in this case I decided to omit them, because the B-1B was going to be modelled in a landing configuration.





Whilst this is happening the cruise missile for the bomb bay is built, provision of parts allowing for it to be made up as a 'stored' one or with extended wings for its operational flight mode. The detail of the bomb bay itself is really rather good, but I had already decided to affix the bay doors in the closed position, so the cruise missile was left out.



This is the cruise missile constructed for its in flight configuration, wings attached both fore and aft, and the whole ready for painting.



The engine pods can now be fitted onto the lower fuselage, location being much aided by the use of 'dowel' type pins and holes. Each is finished by the addition of tail pipes, four in total.

The model is now ready to receive its base coat of matt white onto which was applied a camouflage scheme of olive drab, German grey uppermost and a slightly lighter grey replacing the latter on the underside. These were sprayed on using a Humbrol airbrush of the type now widely available.



Undercarriage units consist of a nose mounted one and two sets utilising double wheel sets located in the mid fuselage position. Painting of these is very straightforward of silver and black, three transparent parts are then fitted to the nose strut.



The undercarriage gears are glued into their respective location holes both fore and aft, after which the various bay doors are fitted as well as the crew access hatch and ladder behind the nose wheel bay. Final item to add is the 'glazed' canopy, a part that does not fit as snug as one would like. In fact to accomplish the fitment of this, filler putty is absolutely essential, after which this is sanded smooth then painted to match the fuselage camouflage paint scheme. In this particular case the option chosen was the 'lucky lady' of the 96th Bombardment Wing, Strategic Air Command, USAF Dyess AFB, Texas 1988. To show the completed Airfix B-1B a display base was produced using a piece of chipboard, onto which was glued a layer of grey tarmac scatter powder. This is a very cost effective way to make the base and it complements the model extremely well.



Italeri's Opel Blitz

By Greg Kerry

The very first example of the Opel Blitz appeared at the International Automobile and Motor Exhibition in Berlin in 1936. Like the Volkswagen Beetle the Blitz was a product of the intensive re-industrialisation which Germany underwent during the 1930s especially after Hitler's initial rise to power in 1933.

A simple, straightforward

rugged design (just like the VW 'peoples car') the Blitz was exactly right for its time and circumstances. In all over 70,000 examples of the factory designated S-type truck were produced. Demand for the machine was so high during the war years that Opel could not keep pace with orders so Ford (of Germany) and later Daimler Benz

produced the Blitz under licence.

THE ITALERI 1:24 SCALE KIT

This is only marketed as a civilian model - part of Italeri's large range of commercial vehicles in this scale. It's surprising that the Italian company doesn't provide the kit in full military guise since

The Airfix 1:72nd kit finished with bare flatbed except for the front vertical behind the cab rear.

it would almost certainly have a wider appeal that way. However, it takes relatively little extra work to turn the basic kit into a military version anyway and this is a project well worth contemplating. I was spurred into making the attempt by wanting vehicles and figures to accompany the Airfix 1:24 scale aircraft - specifically the Bf109 and Fw 190 - and there's precious little else available in this large scale.

For figures the situation is pretty dire as well. Only possibility is to utilise those intended as truck mechanics or, as I explain in detail later, those issued by Revell as latterday German firemen.

CONSTRUCTION

The kit retails at around £11 which might sound quite a high price but it is a well moulded, well detailed product. Only serious problems I encountered during construction were a result of the large size of some major components and the fact that they had warped on their sprues. Worst offender was the flatbed itself (D81) but the chassis side members were also similarly afflicted to a lesser degree. Getting the flatbed straight and square is absolutely essential and because it's quite a bulky, thick casting this involves some trouble. Best thing I could come up

The ambulance version of Esci's 1:72nd kit.



with was to hold the offending part over the steam of a boiling kettle and gently (nervously) persuade it back into its intended shape. This is quite tricky but, as I said, absolutely vital.

In making the kit as a military version there are a couple of odd points needing consideration. Presented as a civilian model the kit has the short flatbed sides. Sure that some Blitz's in military service were thus equipped I left these as they were for my model. However, the majority of these trucks in the hands of the Wehrmacht and Luftwaffe had taller sides extending about as high as the cab roof. To fabricate these for the model would involve quite a bit of work. Because of the large scale and the detail necessary the wooden planking sections could be quite easily cut from plastic card but

the metal vertical supports would have to be authentic looking u-shaped brackets - possibly these could be obtained from Plastruct girder accessories but certainly plain lengths of plastic card (as might be used in a smaller scale) won't be convincing enough here. One other alternative is to have a side section immediately behind the cab alone - in which case the spare side sections could be cannibalised to provide this. Such a model would only be appropriate to a heavy working environment though - as a Luftwaffe airfield accessory perhaps where large heavy crates or aircraft spare parts are being carried.

One other thing is that Wehrmacht examples almost invariably had a covered rear. For the model, wire supports and either cloth or liquid polystyrene

Stage 1 and 2, Chassis and Axle

Provided the main members (parts A1 and A6) aren't too badly warped this stage should provide no real problems. I found it necessary to clamp both ends pretty securely while the joints dried overnight - cloth pegs on the front, an elastic band wrapped tightly around the rear.

The kit's detail starts to show at this stage, the steerable front construction being particularly impressive. A hot knife blade or screwdriver end is required to melt the end of pivoting part A17.



Stage 3 Engine

In two main parts plus some finer extra detailing this makes up into a really nice model in its own right. It will be worth adding some stretched sprue cabling later on and to aid this attachment holes are best drilled now: in the top of the plug caps and bottom of part A28 (which I take to be the distributor).

The engine deserves careful painting. Mine was first painted dark aluminium, then washed in black acrylic, and finally drybrushed in bright silver.



Stage 4 Chassis Details

Tyre halves are best all glued together, cleaned up and painted separately. In any case it is advisable to leave the wheels off altogether for the moment.

Finish off the front axle construction first as this requires more hot knife treatment to a couple of parts. Then fit everything else that needs to be painted in the same basic colour - as I was modelling a military vehicle this meant panzer grey. This included items like the petrol tank (A32/33) and the locker box (D42/43) but not the engine, prop shaft and exhaust pipe. On a few of the parts sink marks are evident - as with the pair of rear hooks (D54 x 2) - which need filling and sanding before being fitted. Then the complete chassis, along with the separate wheel hubs, can be painted.

Then everything else is fitted beginning with the engine and radiator taking care to line up those connecting water pipes accurately. The exhaust pipe is large enough to have its end drilled out and the silencer can (parts A39/41) must be glued in place and have its joint seam seen to prior to painting - a rusty metallic brown.



Stage 5 Cab Details

Construction of the cab is simple enough providing it is tackled methodically. Most of the parts are best painted on the inside before being glued together. The steering wheel and its connecting rod (A64) are best left off till later. If the battery is fitted at this stage, it too is best painted beforehand.

I did consider attempting to make the seats look more worn than the kit part (A69) does. Held over a candle flame the seat bottom was persuaded into a slight depression. However, in doing this I almost melted the front of the seat support which isn't exactly advisable. So if something like this is attempted I would suggest sanding the seat down from the outside rather than employing any type of heat source to its underside as I unwisely did.



Stage 6 Cab Completion

Rather inexplicably Italeri make no provision for a detachable bonnet or any other way of seeing the engine once the cab unit is in place on the main chassis - unless the whole cab assembly itself is simply allowed to be detachable. To overcome this I decided to cut the bonnet parts (top from B78, sides from B72/75) away in order that the bonnet itself would be detachable. I realised that this would make the final cab construction a little more difficult but that it was worth the risk - the engine, as I mentioned earlier, being such an impressive construction, far too good to be forever hidden away. To push my luck even further I decided that the cab interior too was worthy of being made visible so the driver's door was also cut away (from part B75). As chance would have it all this surgery came to a happy conclusion but it did make getting those basic cab parts together more of a job than it would have been otherwise - so only get to work with that sharp knife if you have the confidence to complete the job.

Knowing this final construction would indeed be difficult I proceeded slowly with all due care and attention. I began with the right side (B72) finding that this needed to be held in place with sticky tape to the inside of the mudguard and to the cab rear before it could be guaranteed to stick accurately in place. This was left overnight and then the cab roof was fitted. This too was then left overnight (I really was taking no more chances here) before the right side and the radiator front (B76) were added together. More sticky tape was necessary to hold these neatly together before the cab was finished and virtually gap free. The open door was left unattached for the moment.



Stage 7 Cab to Chassis

This is nice and easy and at this point the pre-painted wheels might as well be fitted. It's also as good a time as any to add the cabling inside the engine compartment. I fitted plug leads, leads from the battery to the distributor, and a couple of stray leads from the carb assembly disappearing back into the cab front (for throttle and choke cables and left it at that.

Stage 8 Flatbed Frame

Only problem here is the one I mentioned earlier: that part D81 was badly distorted in my kit and had to be sorted out - obviously it would not have sat correctly on the chassis unless this were done.

I had already decided to have the tailboard (D85) hanging down so this was left off for the moment although the other side parts were all fitted as instructed.



Stage 9 Flatbed Details

It is worth adding all these except the mudguards and then painting the underside - then fitting the mudguards and painting those. I made the mistake of fitting the 'guards first and then had a hard time of it getting the paintbrush everywhere it was needed. Also, it might be noticed from the accompanying photo that I managed to get the 'guards on the wrong way round: note that the vertical flanges should be on the outside not the inside as I first had them. Fortunately the glue hadn't set completely before I noticed this and was able to reposition them.

To fit the tailboard hanging open meant having to cut off the three hinged brackets from the lower edge, glue these individually to the back edge of the flatbed and only then glue the tailboard directly onto these.





Stage 10 Final Details

For the most part these are self-explanatory. The registration plate digits had to be amended to the Luftwaffe type which has a WL- prefix followed by six numbers. Not having the right sized letters in my spare decals box I simply hand-painted them. The numbers were used from the kit decals with an extra 1 hand-painted on the end (after I realised there were only five of them).

Part D107 was left off completely. For the blackout slits over the headlights I cheated. Rather than cut proper slitted covers from card (as might seem most obvious) I simply sanded away all the detail on the light transparencies, polished up the plastic to its former state of clearness, glued each in place and finally painted over them leaving the rectangular slit clear. And apart from final painting and dirtying up that was it.



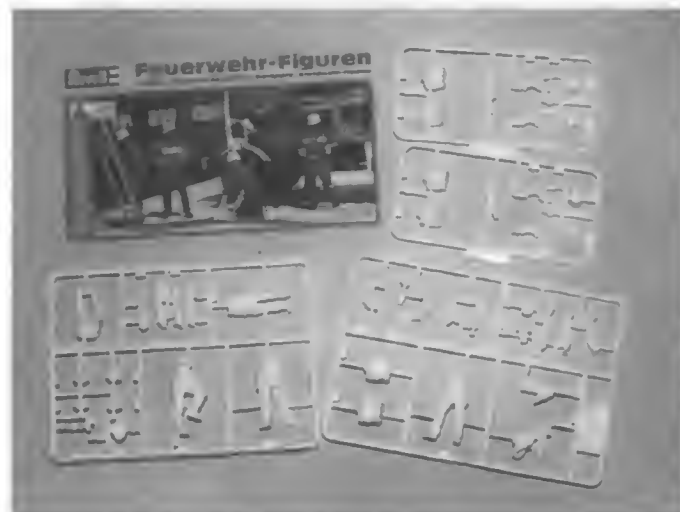
Above and below: The completed model displaying its engine detail and open tail board. The pivoted front wheels add an air of conviction.



REVELLS FIREMEN FIGURES

impregnated tissue paper could be used to simulate this. Intended to accompany the Revell range of Continental fire engines this set of six figures retails at just under £5. I had never seen the figures made up

be the typical Luftwaffe 'blackmen'. Converting the firemen turned out to be more of a job than anticipated. These figures are actually wearing three-quarter length waterproof jackets and first of all the lower parts of these had to be carved away. For this kind of serious surgery a



The spread of parts for one of Revell's continental fireman kits.

but from the boxtop photo I thought they appeared to have potential. Most significant feature is the coal scuttle type helmet worn by four of the figures - just like the old World War 2 design. As it happens I chose not to use the helmets for any of my models but they could have proved useful had I wanted to model Wehrmacht figures.

I completed four of the six figures: using the officer pretty much as he came, one of the ordinary firemen converted to a pilot and two others transformed into Luftwaffe mechanics. Although I completed all the intended work I can't pretend to be too pleased with the final results. These figures are far from the best I have ever seen: their detailing is poor and the general moulding is not exactly crisp and sharp. Nevertheless, in this large scale it's a case of using what's available and making the best of it.

THE TWO MECHANICS

These were intended to be wearing scruffy, baggy overalls - to

tabletop vice is virtually essential - without one I think I would have ended up doing myself a serious injury.

Arms, lower legs and boots were left as they were. More careful knifework was required, however, on the heads. All the figures have well fed faces and sixties' style haircuts. The hair in particular has to be trimmed back leaving some semblance of cars showing.

As I said I didn't use the helmets provided at all though with the kneeling figure I did add a soft peaked cap. To accomplish this I sawed off the top of his head, replaced this with scrap card carved to shape and then added the cap's peak cut from flat card.

I had already decided to have the kneeling figure positioned in the back of the truck examining a crate, say, while the figure intended to be climbing a ladder could actually be clambering into the truck's cab - so neither figure required major anatomical alteration.

With the torsos of these figures superglued to the legs it

Various parts of the four figures used here.



Carving plastic away on one of the figures in the tabletop vice.



Initial stage in sorting out the two overalled figures.

took filler to cover the waist belt and then a lot of sanding and filing to get the re-worked areas looking okay - creating new creases was the most difficult thing, only manageable with a round and oval file. With the waist areas seen to the lower parts of the trouserlegs had to be enlarged with Milliput as these were otherwise too narrow to represent baggy overalls.

One figure was duly painted with black overalls (and the blue cap) while the other was given

white overalls. Although Luftwaffe mechanics were known for their black overalls they can be seen in many wartime photographs wearing grubby white boilersuits as well.

THE OFFICER

At first I thought this would involve very little work. How wrong I was. To begin I shaved off the lower trouserlegs to make the footwear into jackboots. Then the thick waistbelt was

Checking the fit of the driver figure - sitting too tall in the seat despite his feet not meeting the floor: sound reasons for not using him.



Completed pilot and officer with kneeling mechanic in truck.



carved away. With the torso and legs superglued together the waist section was filled and smoothed over with a new, thinner, belt being made from tin foil with a plastic card buckle at the front.

The trousers were converted to breeches by using Milliput sculpted to shape - using a dampened modelling tool when the putty was still in its most pliable state. By the same means large patch pockets were added to the jacket's skirt at the front. Arms for this character were taken from the other unused figures with some of the creases sanded down and the jacket cuff extended slightly on one sleeve to cover an exposed shirt cuff. The figure was painted with a light blue shirt, black tie, and Luftwaffe blue uniform with the minimum of extra details.

THE PILOT

Starting with one of the standing firemen the coat bottom was carved away as with the two mechanics. The lower part of the legs were sawn off in order to be mated with the flying boots taken from the pilot from the Airfix Fw190 - whose arms were also used here. Filler was again used to smooth over the waist area and modelled into the form

of large pockets for the overalls just above the knees. I considered fabricating a parachute too but my enthusiasm gave out and I left the figure as he was. Painting involved little more than grey for the flying suit and brown for the boots.

Although these figures look well enough set up with the Blitz they were something of a disappointment when used with the Airfix Fw190. Although reputedly in 1:24 scale they appear too small in comparison to the aircraft. Strictly speaking, in scale terms, they work out as being about 5ft 6ins tall which is just a fraction too short to be convincing. Interestingly, they match the Airfix Fw190 pilot figure precisely - but this figure is itself markedly smaller than the one in the Bf109 kit. Makes you wonder, doesn't it?

Several other kits of the Blitz are currently available. Haleri do a 1:35 version with high sides to the flatbed and a covering tilt. In 1:72 Airfix also do a standard version like this. Esci, however, also do a whole range of versions in this scale including a standard example, an ambulance and another sporting a quadruple AA mount. The ambulance version, at least, offers an example of a possible conversion in either 1:35 or 1:24.



Completed models with one mechanic in black overalls, the other in white.

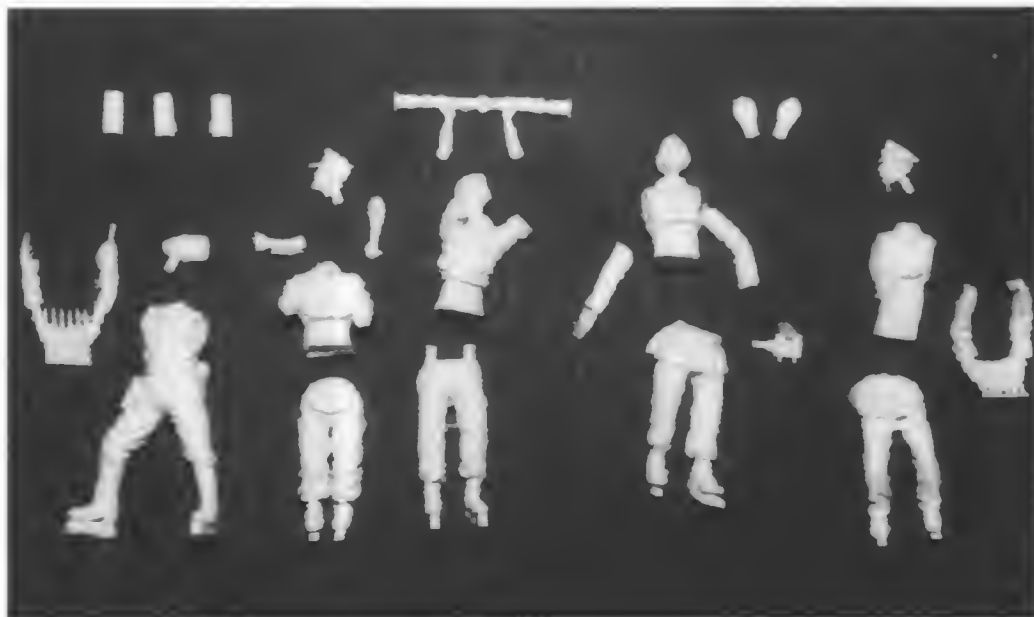


THE 'O' GROUP

Cromwell Models have released two new figure sets, a three-piece CVR(T) crew and a five-piece World War 2 German flak gun crew. Priced at £10.50 the CVR(T) crew can be used for any member of this family of light armoured vehicles as well as others such as the Challenger MBT or Warrior IFV. There is a driver figure showing just head and shoulders, an Officer/NCO with pegboard and pen or alternative arms which can hold weapons etc. and the third figure is an OR/NCO with flackjacket leaning against a vehicle or wall. The German flak crew costs £22.50 and consists of five full figures, an officer and four OR/NCO's depicted serving the gun. It is aimed at the Tamiya SdKfz.7/2 mobile 3.7cm Flak, or the towed 3.7 flak gun as sold separately. All these figures were crafted by Rendall Patten one of Britain's most talented figure modelers and are cast in the usual polyurethane type resin.

I have now had a chance to build the latest release from this company, the Charioteer tank destroyer in 1:35th scale. The kit has over 65 pieces all cast in resin and comes with alternative hatch as fitted to some Palestine Liberation Organisation (PLO) vehicles which were captured from the Government or Lebanese Christian militia. The model is one that is not difficult to build and is ideal for beginners to experience the delights of a resin model. The parts fit was very good, the only problem encountered were small air bubbles in the smoke discharger mounting brackets. Instead of filling these I replaced them with strips of plastic card. Priced at £54 this is relatively competitive with the products from other companies and for this kind of kit is not excessive.

I am told that the next kits to be released will be the Vickers Cromwell Models 1:35th scale Flak Gun Crew, a five figure set selling for £22.50. It can be used for any 3.7cm flak gun in this scale.



Cromwell Models 1:35th scale CVR(T) Crew Figures priced at £10.50, or considerably less if ordered with the Spartan kit direct from the workshop.

from Chesapeake Model Designs, P.O.Box 393, Monkton, Maryland 21111, U.S.A..

Azimut/ADV have just released four new kits, some of which have been mentioned before in 'O' Group as being in preparation. The first is an SdKfz 250/7 mortar carrier conversion for the Tamiya kit. The mortar which fits neatly in the fighting compartment is an 8cm GrW34 company support weapon. The second conversion is a wooden cab for the Italeri Opel Blitz 4x2 truck. This was a late-war modification when metal had become more important to the armament industry less valuable materials were used where ever possible. The Steyr 1500 is a command car looking something like an overgrown Austin Champ. This is a full kit which includes photo-etched brass parts and white metal bumpers. The detail is quite good, especially the wheel hubs. Last but not least is the 155mm M1 'Long Tom' howitzer one of the largest pieces of allied artillery. In all there are over 100 pieces cast in resin with a small fret of brass parts included. Azimut products are distributed in the UK by Historex Agents, 3 Castle Street, Dover, Kent.

With the break-up of MP Models late last year, Bill Miley one of the founder members of that company has set up on his own under the Chesapeake Model Designs label. He currently has four releases on offer, Sherman 75mm Turret, T-54 Turret, T-62 Turret and 17 Pdr Firefly Turret. These are all hollow cast and come with separate detail parts, the Firefly kit having the hull pieces such as storage box, fire extinguishers and cleaning rods etc. The armour is nicely textured and there is a lot of detail. As yet there is no UK agent but you can order direct

TC Berg is a Japanese company that specialises in the Jeep, have now released an update kit for the Hummer. The set includes Goodyear 'wrangler' type tyres cast in resin, and white metal bumper and extended exhaust. Also new is a Willys MC type jeep which came in to service with the US Army shortly after World War 2. It is recognizable by its smaller windscreen with thicker surround. It in turn was replaced by the Willys MD



with a larger and more rounded engine hood. This model is also marketed by the company. At the moment this range is only available in Japan, but at least one UK outlet is interested in importation.

Accurate Armour are set to release four new kits, as I write this I am told that the first orders for the CVR(T) Samaritan and CVR (T) Samson will be in the post. These could well be the last 'support vehicles' that the company produces. In some ways these models are far more difficult to produce than combat vehicles sharing the same chassis. The Armoured Recovery Vehicles come with superbly detailed pioneer tools and vehicle fittings which make them look very impressive. But most modelers want guns and missiles associated with more offensive hardware, and even for resin kits sales have been small.

The company feels that unless

sales increase, further production of these kits will not be justified.

Next month the company will be releasing the long awaited M18 Hellcat tank destroyer. The M18 was a light-weight tank destroyer put into production as a replacement for the M10/M10A1 Wolverine, and was one of the fastest tracked vehicles of World War 2. It was armed with the same 76mm M1A1C gun that was fitted to the M10 and late-production Sherman, and used the same ammunition, though larger quantities of the HVAP(High Velocity-Armour Piercing) were issued to Tank Destroyer Battalions. This will be the first kit of an American World War 2 tracked vehicle released for quite some time and should be popular with World War 2 fans. Also due for release is an updated A30 Challenger Mk.1 kit. The original kit was produced over four years ago and since then materials and

Verlinden's 1:35th scale reactive armour set which converts the Tamiya/Escabi M60A1 kit to the USMC version used in the Gulf War.



Cromwell Models Charioteer to 1:35th scale. Priced at £50 this is a good quality kit entirely cast in polyurethane type resin, this is the PLO version.

techniques have been greatly improved. In its original form the model depicted the early-production version (first batch of 100 tanks) with 76mm armour. The new kit includes the extra armour to build the late production vehicle as an option. Other kits due shortly include the Valentine MkII/IV, CVR(T) Striker and CVR(W) Fox. Accurate Armour, Unit 16, Ardgowan Street Industrial Estate, Port Glasgow, PA14 5DG.

The Japanese company Artbox is going from strength to strength, it is the parent company of Model Graphix magazine and publications, Model Kasten 1:35th scale armour accessories, Show Modelling 1:35th Photo-etched Detail Sets, and now have released their first 1:48 aircraft kit. Under the 'Sector' label the company have released a kit of the Fiat G50bis World War 2 Italian fighter aircraft priced at £19.50. This is a top quality kit with finely engraved panel lines and a comprehensive decal sheet giving markings for 20th, 21st, 154th, 155th and 161st Gruppo Regia Aeronautica and also Croatian Air Force. As yet there is no UK distributor for Sector kits, but Hannants have ordered some and they should be on sale as you read this.

The latest Model Graphix publication is a book on Japanese military uniforms 1930-45 and covers both Army and Navy. The illustrations show the uniforms in full colour, with further line drawings showing how the particular garment was cut. This later feature is important as oriental tailoring often differed quite considerably from Euro-

pean styles.

In the Model Kasten range there have been several new releases, the most interesting is the new SK-1 Tiger Track. This late-pattern track is made up of over 800 pieces with separate links guide horns and track pins. The finished track is fully articulating just like the real thing and must be the ultimate in plastic injection moulded track. Given the number of parts, jigs have been provided so that the links can be joined five links at a time, and as the pieces are not cemented rigid construction can be undertaken small lengths at a time until the entire track is finished.

Set W-2 is a set of roadwheels for the Pzkwf IV and its variants and can be used on both Tamiya and Italeri kits. The actual wheels themselves are all the same type, but you get the choice of three types of wheel hub, one for Ausf A-E, E-H and H-J, and are ideal to complement the Pzkwf III/IV track sets. Artbox products are imported by Historex Agents, 3 Castle Street, Dover, Kent., please write mentioning Airfix Magazine for further information.

Paul Woodman

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THE PT-76

By A.M.I.C. Oughton

THE Plavayushchiy Tank 76mm cannon is the Soviet designation for their versatile and air-portable PT-76 amphibious

reconnaissance tank. Based on the chassis of the Penguin Arctic tractor and produced at the Volgograd Tractor Factory, develop-

PT-76 on parade. Note track sag, position of aerial and no co-axial machine gun view. (Bovington Tank Museum)

ment work began on the PT-76 in 1952 and it was issued to the Red Army, for the first time, in 1955.

Since then it has been built in large numbers - some 3,000 still equipping Soviet reconnaissance battalions and it has been distributed widely and used by many other countries. These include Afghanistan, Angola, Bulgaria, Cambodia, Congo, Cuba, East Germany, Egypt, Finland, Hungary, India, Indonesia, Iraq, Israel (65 captured vehicles), Laos, North Korea, Pakistan, Poland, Romania,

Syria, Vietnam and Yugoslavia.

SPECIFICATIONS

Powered by a rear mounted six-cylinder in-line water cooled T-54V-2 diesel engine of 240 hp, the PT-76 has a maximum road-speed of 27 mph and a maximum range on the road of 161 miles.

Equipped with a pre-heater for cold weather starts, this unit is half of the V-54 engine used in the T-54 medium tank; and its power reaches the PT-76's rear drive sprockets via a mechanical constant mesh transmission - which consists of one reverse and five forward gears.

Twelve medium-sized road wheels (carried on torsion bar suspension) plus two idler wheels, make up the remainder of the vehicle's running gear and there are two shock absorbers per side, situated at the stations of the first and sixth road wheel. Although, relatively narrow, the PT-76's tracks are manufactured from steel and steering is carried out by a clutch-and-brake type system.

The vehicle's large hull is welded and completely watertight and this, in conjunction with its light weight (14 tons) gives the PT-76 a favourable volume/weight ratio. However, in order to maintain its impressive amphibious characteristics, its armour only provides protection against small arms fire and

PT-76 coming ashore during a reconnaissance mission. (Bovington Tank Museum)



shell fragments and, as a result, it has proved vulnerable when in action.

ARMAMENT

All models of PT-76 are armed with either a 76mm D-56T or 76mm D-56TM tank gun. Both weapons are ballistically identical and fire the same ammunition as a number of other Soviet tank guns and artillery pieces.

The main gun is situated in a turret set well towards the front of the vehicle and as a result, it has all round traverse; as well as the capabilities of +30 degrees of elevation and -4 degrees of depression. It also has a rate of fire of 15 rpm and there is storage space on board for 40 rounds of ammunition.

The PT-76's secondary armament consists of a co-axially mounted 7.62mm machine gun, which is capable of being operated independently. The vehicle's optics include a sight, co-axial to the main gun, which has stadi-metric graduations, three episcopes for the commander, one for the loader and three for the driver.

AMPHIBIOUS PREPARATION

To prepare the PT-76 for

amphibious use, a trim board hinged at the junction of the glacis and nose plates has to be erected. Once in the water the tank is propelled by two hydro-jets, the outlets for which are situated in the rear vertical plate of the hull. These jets are operated by a pump, which is driven by the vehicle's main powerplant.

To steer in water, the hydro-jets are used in conjunction with two additional vents, the covers of which can be opened or closed altering the direction. These outlets are situated, one either side of the hull, above the track guards towards the rear.

Equipped with two electric and one manual bilge pump, some PT-76's also come with a snorkel device and they all have a maximum speed of six mph in smooth water conditions.

OTHER INFORMATION

The PT-76 is manned by a crew of three consisting of a commander/gunner, a loader and a driver. The driver occupies a central position in the hull, just forward of the turret and, as well as the three episcopes for closed-down vision mentioned earlier, there is an extendable periscope to enable him to see over the trim board when the vehicle is in water. The commander/gunner

and loader are situated in the turret.

In addition to the normal driver's headlights, some PT-76's also have a searchlight mounted on the turret for the commander's use; and if a smoke screen is required, diesel is injected directly into the vehicle's exhaust system. Including the main gun, the PT-76 is 7.63 metres long, 3.14 metres wide and 2.25 metres from the ground to the top of the turret.

DIFFERENT VERSIONS

There have been three different versions of the PT-76. The first (known as Model 1) mounted a 76mm D-56T tank gun, that had no bore evacuator and was equipped with a multi-slotted muzzle brake.

The next version (Model 2) mounted a 76mm D-56TM gun that was equipped with both a double-baffle muzzle brake and a bore evacuator. However, on some of the Model 2s their muzzle brake was removed.

The final version, designated the PT-76B, is the only vehicle in the series to have its main armament stabilized - once again a 76mm D-56TM.

An experimental vehicle, fitted with a short 85mm gun, was designated as the PT-85,

View of Accurate Armour's completed PT-76 model.

although it was not destined for future development.

THE KIT

Accurate Armour manufacture a PT-76 in 1:35 scale and Cromwell Models a PT-76 in 1:76 scale - both of which are finished in resin. However, I wanted to buy an injection moulded kit of this fascinating vehicle and finally settled on one manufactured by Glencoe Models from the United States.

This was in 1:32 scale and consisted of 89 pieces that were moulded in a relatively flash free olive green plastic. The kit was obviously manufactured as part of the 'toy' market as, although it was fairly easy to assemble, the fit of some of the pieces was poor; there was a major error in the kit's armament and the tracks required a great deal of work before they looked right.

The main problem with 'fit' concerned the two side plates and the rear plate - which had to be carefully cemented to the upper hull roof. However, the problems did not end here, as once this assembly was attached to the lower hull there were a number of gaps which had to be filled.

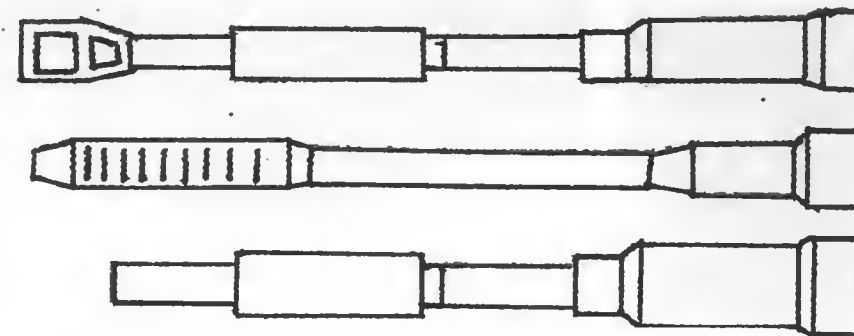
As regards the kit's armament, for some reason it is shown as having two co-axially mounted machine guns, although the actual vehicle only has one. Therefore, in order to be accurate, the left hand gun has to be removed and the resulting hole in the turret closed by filler.

Next we move on to the tracks. Although at first glance they appear rather clumsy, once they are painted and fitted they do not look too bad. However, I had to sew them to the drive sprockets, idlers and every other road wheel, in order to give the impression of sag.

Despite this, I did enjoy making the kit which I painted overall in Humbrol's olive drab. After applying the decals (Russian Tank Markings 064001/3 from Scale-master, which come with the kit) I dry brushed the entire model with the base colour mixed with sand; and then repeated the process after the paint was further lightened with flat white; before finally accentuating the vehicle's lines with metallic grey.

All things considered it was not a bad project, although at £12.75 I was expecting something a little better from the manufacturer.

The three types of tank gun used on the PT-76. The first is the D-56T, the second is the D-56TM and the last, a short 85mm gun was used on an experimental vehicle which was called the PT-85.



Model Motoring



PORSCHE 928 S4

By Richard Randle

SELECTED as one of the February Airfix/Heller releases the Porsche 928 S4, is an outstanding model worthy of addition to my collection.

The kit is based upon the 1987 Porsche, one that incorporated a redesigned front end to achieve improved aerodynamic performance as well as engine cooling. This latter power unit comprising a 4957cc V8 DOHC engine

producing 316 bhp at 6000 rpm, delivering 255 km/h (top speed) and a 0 to 100 km/h acceleration in 6.3 seconds.

As it is the Airfix/Heller kit builds up into a most impressive model as do the others in the line up of Mercedes Benz 300 SL, Lamborghini Countach 5000, and Ferrari 365 GTB Daytona all of which serve to enhance both ranges

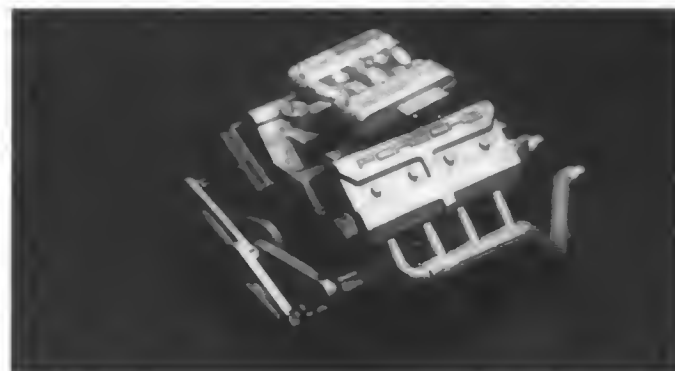
Stage 1

The Airfix/Heller, Porsche 928 S4 (series 6) consists of 88 very finely moulded and detailed parts produced in black, blue, silver grey, chrome and transport.

Usefully, the multi colour parts match their function as for example, chrome for the wheels and black for the chassis. Additional features are rubber tyres and decals to add that finishing touch.



The Airfix/Heller 1/24th scale Porsche 928 S4, ready and waiting to go, to the sound of a 1960's rock classic!!



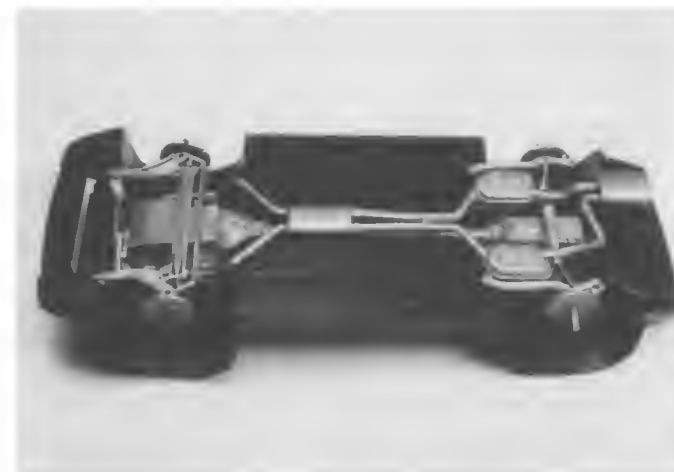
Stage 2

First assembly centers upon the highly detailed engine and this consists of nine pieces, all of which are in silver grey and black. This is easily put together and makes for an interesting feature, in the new line up of Airfix/Heller model car releases.



Stage 3

When the engine is ready it is added to the chassis base, followed by the radiator, and finally the suspension units for the front wheel. These include the brake discs, whilst each suspension strut is retained by a holding plate.



Stage 4

Chassis/Engine details are then added such as the gearbox, drive shaft, exhaust pipes and the rear suspension assemblies, all of which are final moulded pieces.



Stage 5

Turning to the interior of the vehicle, the centre point of this being a base component. Onto this are affixed the side door panels followed by the dash board and steering wheel. A decal is included for the dial gauges upon the instrument panel.

The two front seats have back plates fitted before eventual placement on the base, whilst the rear set are made complete by the addition of head rests on the back sill.



Stage 6

With the interior assembly constructed it can now be secured onto the chassis unit using location pins and moulded 'holes' to ensure correct and aligned fitment.

The forward end of the interior dash board should fit flush to the rear of the engine.

Stage 7

While this is put aside to set firmly the shell or body of the car was built up, by carefully adding 'nose' and 'tail' sections onto the main unit, followed by the rear spoiler that fits just aft of the window.

This leaves the assembly ready for painting, in this case using an airbrush to achieve the best finish possible, and when finished and left over night to dry. Having done this the transparent window components are affixed, the largest one including all of this side, rear and windscreen with smaller parts for rear and front lights as too headlights. Other items then fitted were window wipers, rearview mirrors and licence plates.



Stage 8

The wheel hubs are supplied in a chromed effect finish that needs no preparation except for removal from the sprue and once this is done each is simply push fitted into the rubber tyres. These are then slipped onto the axles and there retained by location pins thus allowing the wheels to rotate, each of which are finished as chrome parts to match the hub.



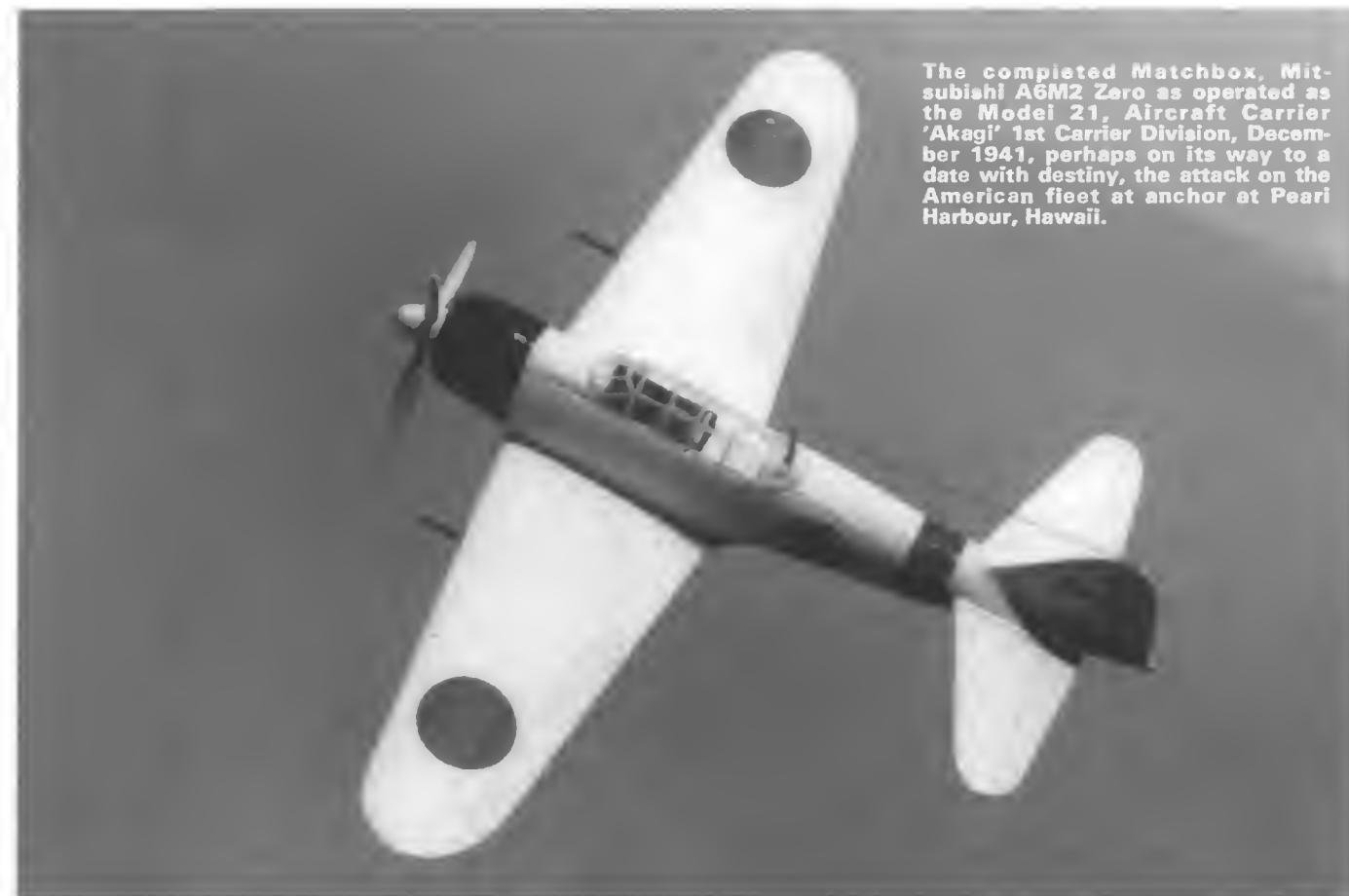
Stage 9

The chassis and shell of the car are then assembled, requiring only that the two be mated, although a little time has to be taken as they are carefully fitted. Final details to make the car complete are the decals, nine in total including license plates, bonnet badge as well as Porsche badges on the wheels.

One point to look out for is the apparent option in number/license plates as two types seem to be available, together with their respective decals. However once this has been sorted out the end result is a very outstanding and excellently detailed model of the Porsche 928 S4 that has to be highly recommended to modellers of all ages and abilities.



The completed Matchbox, Mitsubishi A6M2 Zero as operated as the Model 21, Aircraft Carrier 'Akagi' 1st Carrier Division, December 1941, perhaps on its way to a date with destiny, the attack on the American fleet at anchor at Pearl Harbour, Hawaii.



Mitsubishi A6M2 Zero

By Richard Randle

LONG associated with such events as the attack on Pearl Harbour, and the Japanese success's in the Pacific theatre of operations, the Mitsubishi Zero was an aircraft to be reckoned

with such as to establish a fearsome reputation.

As a successor to the Mitsubishi Type 96 it was first designed in 1938, and first taking to the air on 1 April 1939

The Matchbox Mitsubishi Zero A6M2 is a cleanly moulded kit consisting of 30 parts and a complete decal sheet. The parts are moulded in two colours, of brown and green, whilst the decals allow one of the versions to be modelled, and these are a Model 21, Aircraft Carrier 'Akagi' 1st Carrier Division, December 1941 or Naval Air Corps Operational Training Unit. The former of these has an overall white colour scheme whilst the latter one of green upper surfaces with orange below.



under the A6M1 designation. It was adopted by most sectors of the armed forces and as Japanese expansion and military aggression

took them to further afield to Manchuria and China the aircraft was put through its paces. In fact, much as several German



Assembly commences with the joining of the fuselage halves and fitting of the tail arrestor hook plus the pilot's seat. Clearly the seat and hook are first sealed to one fuselage half and when they have set firmly, this is mated to the other half. At this stage the pilot was omitted until the aircraft had been painted, and the use of wooden pegs or even clamps is particularly recommended to ensure a good join. Any excess material is then carefully sanded away.



Next step, although deviating from the instructions somewhat, is the construction of the wings and then the mating of these to the fuselage using wooden pegs for holding pressure. The basic assembly is a case of joining the lower section to those of the two upper ones, taking care to ensure that all are fitted correctly. Again excess material is sanded away particularly at the wing tips, until they assumed the correct profile.



Following this the fuselage and wing assemblies are joined together, the one slotting into the other. Whilst doing this I did discover a small gap between the wings upper surfaces and their respective wing roots, though this is soon put right with the application of a small amount of filler putty, that is itself sanded smooth to the shape of the wing.



Next to add are the two horizontal stabilisers, that are carefully glued into position whilst checking their alignment to both the fuselage as well as each other. The joins between the stabilisers and tail sections do require filling with putty again to affect a smooth transition between the two units.

aircraft were developed through combat experience in the Spanish civil war, the Zero was upgraded to the A6M2, the type that was used in the Pearl Harbour attack. As it was then the plane enjoyed a marked superiority in performance over most of the Allied aircraft in common usage such as the P-40, but this was soon lost with the introduction of the F4U Corsair, and Spitfires to the Far East, not to mention the calamitous attrition rate that the war produced. Many of the remaining Zero's were

used in Kamikaze attacks towards the war's end.

Specifications for the Mitsubishi Zero A6M2 included a 36ft 1in wing span, 29ft 9in length, 1130 hp engine (358 mph approximate maximum speed) and an armament of two machine guns in the cowlings and two located in the wings.

One of the several kits available of the Zero is that still marketed under the Matchbox logo in 1:72nd scale. It is this kit which forms the centre of this review.

Turning to the engine cowlings this is a very straight forward component moulded as a single piece into which is located the propeller shaft. This is then held into place by a retaining 'hoop' that fits onto the shaft end, and if care is taken with glue application then it will rotate reasonably freely.

The undercarriage can be modelled in both extended or retracted configurations, although for the latter the leg struts are best left off. Assembly of the main units consist of attachment of the wheels to the suspension leg that is in its turn affixed to the bay door. The wheel/leg component is then glued into location holes moulded into their respective bays, whilst additional doors are fitted. The tail wheel slots into the location hole in the lower tail end of the fuselage and to be honest it does appear somewhat basic. However, a little effort in this area could soon put this right producing a very acceptable finish.



The mid fitting fuel tank made from two halves, can now be positioned upon the fuselage underside, at which point the model is ready for painting. In this case I opted for the all white version, of the Model 21 based on the carrier Akagi. The only exception to the overall white of the airframe is the engine and engine cowlings, undercarriage tyres and the wing mounted machine guns, all being painted black. The cockpit interior was given a coat of neutral light grey, after which the painted machine guns were affixed to the wings.

Whilst the aircraft was drying, attention was turned to the pilot and canopy, each of which were decked out in their particular colour schemes. Thus when the pilot was completed he was glued to his seat, very securely, using a superglue, followed shortly afterwards by the canopy, now more effective with the frames added. With this in place the aerial support can be fitted to the rear of the canopy unit and a length of stretched sprue run from this to the tail. The illustration upon the box can be a very useful guide for the fitment of the aerial.



KIT COMMENT

DOUGLAS DC-3 DAKOTA

Manufacturer: Welsh Models
Scale: 1:144th
Price: £7.35

Type: Injection moulded with metal parts

It is several years now since Welsh Models first produced a Dakota in 1:144th scale - initially as an RAF machine and later in civilian markings - and with alternative parts for one of the Dart powered conversions.

You will probably have noticed that some of the later Welsh Model kits are featuring a vacuformed fuselage and injection moulded wings and tailunit etc. Then came the stage of entirely injection moulded kits, the Hunter and then the Jetstream range. Now we have their biggest injection moulded kit yet, the DC-3.

The actual mouldings themselves have been done by Aeroclub. A vertical split is used for the fuselage with the fin and rudder as a separate part. With a gentle rub down the two halves of the fuselage fit very well indeed. The windows are shown as indentations. They could be drilled out but the plastic is quite thick and this could be a little time consuming and expensive



on fine drills! I decided that as the windows were square I would take the easy way out and use pieces of black decal for them.

The greatest amount of adjustment was required on the top surface of the centre wing section to ensure a good fit to the fuselage, and then some filling. Metal parts are used for the engine fronts, propellers, under-

carriage legs and braces, oil coolers and tailwheel. There is also a metal DF loop fairing which you may wish to fit.

Assembly is straight forward and presents no problems in making a first class model. Decals are for EC-AXS of the Spanish airline Spantax about 1964 but these only consist of title, registration letters and nose motif. It is necessary to find in

the spares box or purchase a light blue stripe for the fuselage and some red and yellow ones for the national colours on the fin. The upper surfaces are white and the rest light grey. If you have a steady hand they are not beyond the possibility of being hand painted.

This is a really nice little model well worth making.

Brian L. Thorne



NORTHROP X-21A LAMINA FLOW RESEARCH AIRCRAFT

Manufacturer: Air Craft Models

Scale: 1:144th

Price: £6.25

Type: Vacuformed with metal parts.

In recent years there have been a number of kits featuring some of the X series of American research aircraft. Most of these have featured the more spectacular types such as the Bell X-1

and other high speed types such as the Ryan X-13 Vertijet. The X-21A was a very important research aircraft but not particularly striking. It is good therefore that it has become the subject of this model from Air Craft.

Its selection by Air Craft is obviously linked to the fact that the machine was modified by Northrop for the research from a Douglas WB-66D. It was intended that three aircraft were to be converted but unfortunately one of them was damaged in an

overrun accident on its delivery flight to Northrop for conversion. Since the previous model from Air Craft was a Douglas B-66B Destroyer the undercarriage parts were identical which helps to keep the price of the kit down.

Like the Destroyer the fuselage halves are moulded with the fin up to just above the tailplane level. This makes it necessary to be very careful in preparing the fin halves to match the base of the fin. Assembly is well illustrated by a series of sketches in

particular for the undercarriage assembly. Even though the cockpit floor and seat is metal as is the instrument panel it is necessary to add quite a bit of ballast in the nose to prevent tailsitting since it is a rear engined aircraft.

The wings are anhedral and the tailplane dihedral. It would have been useful to have had a front elevation rather than having the wing tip position shown on the side elevation. Maybe it is a matter of personal preference. There are no real problems in assembling the model.

The colour scheme suggested is that of the first machine, 50408, in its final scheme. This is a white fuselage, nacelles, fin and tailplane with natural metal wings and suction nacelles under the wings. The rear fuselage carries an orange band which extends as a flash up the leading edge of the fin. A thin orange stripe extends forward along the fuselage and opens out around the nose. Excellent decals are provided.

Perhaps I should point out that Air Craft kits are available from dealers such as Flying High, Hannants and Maintrack models. If you order by post you will not be disappointed with the kit.

Brian L. Thorne



SHORT S.23 C CLASS EMPIRE FLYING BOAT

Manufacturer: Welsh Models

Scale: 1:144th

Price: £8.99

Type: Vacuformed with metal parts

As most readers will probably know by now I'm a civil man at heart, so you will not be surprised at my delight in having this pre-war flying boat to review. It is the first of a new line from Welsh Models styled

as the Yesteryear Series with reference number Y01.

A total of 31 Short S.23 Empire flying boats saw service with Imperial Airways and of course later with BOAC. A few saw war service with the RAF and some were sold to Quantas. Of these latter ones many were used by the RAAF during the war and some returned to BOAC. The Ian Allan book 'Pictorial History of BOAC and Imperial Airways' by Kenneth

Munson gives detailed information on the fate of each one. Many survived until 1947 before being scrapped.

The kit follows the usual Welsh Model lines with nicely detailed accurate mouldings in white plastic. The fuselage is strengthened with three bulkheads making the assembly very strong. The small windows are round and are therefore quite easy to drill out. The larger windows are large enough to allow for easy filing to shape. It is only the cockpit panels which require great care so as not to damage the frames which are rather delicate.

The wings include in their moulding the engine nacelles up to the radiator gills which makes simple that difficult job of getting the fairing of the engines into the wings. Tailplanes and fin are each split and need a good rubbing down to ensure nice thin trailing edges. A horizontal split is used on each cowl inside which is a bulkhead to support the metal engines. These are very cleanly moulded in whitemetal. Metal propellers are also included. The floats are split vertically and include in the

moulding the support struts. If you are very careful in cutting out and preparing these parts the struts can be used with the advantage that the correct lengths and angles are built in.

A very nice extra in the kit is a metal beaching chassis comprising of two main braced legs and wheels and the tail dolly. The use of these stops the model flopping sideways when displayed. There is a good picture of the beaching gear shown in the book reference above.

Painting the finished model is simple as it is silver overall with bronze leading edges to the engine cowlings. Decals are provided for two machines, G-ADHL 'Canopus' and G-ADUY 'Capella'. Canopus was the prototype and probably the most famous and most photographed. It survived until November 1947.

A first rate kit and I look forward to future models in the range. It is interesting to compare the model with its American rival the Boeing Clipper which has of course been the subject of an Airfix kit in the past.

Brian L. Thorne

NORTH AMERICAN P-51D/K MUSTANG

Manufacturer: Airfix

Scale: 1:72nd

Price: £3.25

Among Airfix's first batch of releases for 1992, complete with new box art and decals, is this kit of one of the all time classic fighters in its fully developed form. If I remember correctly this is Airfix's third Mustang and is of relatively recent origin, as can be seen by the quality of the detailing in the cockpit, and indeed overall.

The kit is well moulded in the standard grey plastic, with delicately engraved external panel detail as well as an instrument panel with recessed dials, equipment shelf behind the seat and the above mentioned inclusion of side wall detail in the cockpit, and the fit matches the quality of the moulding: I needed no filler at all, and a very light sanding only at the forward wing/lower fuselage join. The lower wing has the flaps and ailerons moulded with it to avoid a trailing edge join, and the machine gun muzzles are sufficiently delicate to give a little apparent depth to the barrels without being overdone.

The assembly is so straight forward and hassle-free as to require no further comment; the only choices to be made are to ensure that the correct propeller is chosen for the desired variant, this being the only difference between the marks, and whether to use the pair of small bombs



included as a load for the wing pylons or the typical flanged drop tanks. I used the latter, not least because of the very neat inclusion of the fuel piping in the top half moulding. The K is offered as a Royal Air Force IVa in the markings of No.249 Squadron at Brindisi in 1945, camouflaged and with small sky code letters and that unit's elephant on a small disc below the windscreen; I chose the silver Swedish D of F16 based at Uppsala in the same year, not least because of the young redhead named Fay just forward of the wing root. It is said that many of the aircraft of this wing had

such a marking, with the name of the girl based on the individual code letter; perhaps Flying Colours would consider a decal sheet with other options! Given the year and the neutrality of its operator, I wonder if this aircraft had been bought or interned; like all the best kits, this one raises as many questions as answers.

With the Bristol Bulldog also re-released at the same time in Swedish Air Force marks, I wonder whether Airfix salesmen have identified a whole new market; but whatever the reason the return of this kit is very welcome, and with a selection of

more usual alternative markings available from Superscale and others the provision of the Swedish crowns is particularly welcome. With recycling kits now a necessity for manufacturers if they are to raise enough cashflow to generate new moulds, it's good to see a little imagination being used, particularly as this is an excellent example of the quality of kit Airfix are capable of producing, and is extremely good value for what I suppose is these days a pocket money price; the sort of kit in fact on which the company built its reputation.

Mike McEvoy



BLACKBURN LINCOCK III

Manufacturer: New Types Park
Scale: 1:72nd
Price: £6.75
Type: Limited run injection moulded

The last of the kits presented to Airfix for review at Peterborough, this is an off-shoot of the Aeroclub stable, produced by Simon Adams in his copious free time from the day job. The

original aircraft was produced at Brough in 1930 as one of a short series of Lynx-engined light fighter prototypes, of which only this third mark saw any service, with two being sold to China and two to Japan.

The caramel-coloured mouldings are delicately done, with good fine surface detailing, and comprise fuselage halves, wings and tail surfaces. Engine, exhaust ring, propeller, seat and

main undercarriage legs and wheels are white metal and two lengths of plastic rod are included for struts. I found the inclusion in the instructions of the lengths of the struts in millimetres very helpful, as I never seem to be able to cut them to match a plan exactly; their seating points are shown on the plastic mouldings, and the combination of these two features helped to simplify the

assembly for me considerably. The small windscreen needs to be found from your own resources.

The III's, of which full details can be found in the Putnam book of Blackburn, were all silver with as far as I can tell from the photos a 'wooden' finish to the propeller and black strutting. The works demonstrator for a time at least carried the registration G-ABFK on wings and fuselage. It was a very agile little aircraft and much in demand for aerobatic demonstrations at flying displays, but then as now the RAF had no perceived need for a light fighter. For those modellers who like the unusual this is a well thought out and produced little kit, and is available only through Aeroclub, either from their stand at the displays this season or by post from 5 Silverwood Avenue, Ravenhead, Notts NG15 9BU, in which case your cheque should be made out to S. Adams and include 75p. for postage and packing.

Mike McEvoy

LOCKHEED T-33AN SILVER STAR

Manufacturer: Hobbycraft Canada
Scale: 1:48th
Price: £9.99

I am of course prejudiced by the choice of aircraft; at the distance of 36 years I remember the T-Bird and the hours I spent in it with great affection, although this could make me more rather than less critical of the kit. Given the aircraft's place in the RCAF, not to mention it's 30 or so other users, it's not surprising that Hobbycraft Canada have added it to their range. They've also taken the opportunity to use much of the basic mould to bring out kits of the F-94A and B Starfires as well; but it is the apparently irreplacable T-Bird that I seized for review when it became available.

On opening the box the size of the model in this scale is impressive without being overwhelming, and Hobbycraft's mouldings are well done, in pale grey plastic with fine recessed panel lining and engraved instrumentation on instrument panels and consoles. Two pairs of what I assumed were rudder pedals were included for front and rear cockpits, but the angles which they made with the floor were awkward, and their base needed to be sanded to a better angle before fixing. I succumbed to the temptation of putting a little metallic dot on the top of each control column to represent the electric trim switch which was one of my instant memories of the type, such a relaxed way of



settling the aircraft down after winding the big trim wheels of the Harvard. There is a large blanking plate for the inside of the main undercarriage wells, and separate flaps although there is no angle given in the instructions at which to fix them; I settled for about 25 degrees, as it seemed a pity to ignore the feature, but I couldn't say how accurate that is. Fit is generally very good with a little care, but no filler, needed at the lower wing/fuselage joins. The large clear canopy can be mounted open, with strut and support provided.

There are three finishing options in the kit, all basically silver overall, and somewhat to my surprise it's that of the USAF that's featured on the box top, but perhaps that's where the major market is seen. Two aircraft from that service's Pennsylvania ANG are offered, with unit

badge for the fuselage flanks and an enigmatic message on the tip tanks. Second is a Mexican T-33A of 1977, with orange tanks and fin and that country's unusual triangular marking, and the third is of 432 Squadron, Royal Canadian Air Force, c.1956. This has red high-visibility panels on wing and tail, and an orange wing trailing edge, as well as the squadron's leaping cougar above each intake, that animal's mask on the nose and bent striping for the rudder. Normally I would have chosen the last - especially as the identification number decals to go on the red wing panels are already outlined in silver, a service that by no means all kit manufacturers offer - but for reasons related elsewhere I couldn't resist the chance to finish it as 21272 of D Flight, No.2 Advanced Flying School, Portage la Prairie, Manitoba. After all, I'm unlikely

to make many T-Birds in this scale.

The decal sheet is fairly basic, with no stencilling included, but has the national markings of the period, and the red turbine warning stripe for the rear fuselage. Serial and aircraft identification were taken from Model decal sets. While there is still scope for extra detailing - the white line and length of red string just in front of the windscreen that acted as a head-up slip indicator are not mentioned in the instructions - this is a very good kit from Hobbycraft Canada, such little points as the covers over the unused gun troughs indicating that they have done their homework well, and the resultant model has the air of solidity that I remember from the real aircraft that belied its sprightly performance.

Mike McEvoy

MIG-9

Manufacturer: Eastern Star (Available from Eastern Import and Export)
Scale: 1/72nd
Price: £3.99
Type: Vacuumformed

The MiG-9 was developed from the experimental I-300(F). It was designed around a pair of the Russian produced version of the Junkers Jumo 003A engine. Other engines were used in later variants and there was also a two seat version. Although not as successful as its contemporary, the Yak-15, it is believed that about 550 were built. One remains in existence in the Air Forces' Academy Museum at Monino.

The kit is moulded in quite thin white plastic. There is quite a lot of panel detail on all surfaces but it is on the heavy side if you consider the scale. There are also moulding pips to remove. All the parts are referred to by number in an exploded view to help assembly but to find their numbers you have to refer to a layout drawing of the moulded sheet. This is no problem.

It is necessary to add quite a bit of weight in the nose to prevent tailsitting as the wings on the MiG-9 are mounted fairly well forward. Both the main undercarriage and the nosewheel bays have linings and the cockpit has seatpan with consoles and instrument panel. The undercarriage legs are vacuumformed and being small require great care in preparation. I preferred to use plastic rod for these.

There were no problems with assembly, the exploded view and a few other sketches being quite adequate. Decals are provided for two machines '21' and '01'. The former is suggested as light grey overall except on the lower fuselage behind the jet exhausts which is metallic grey. '01' is natural metal all over with the lower fuselage area again metallic grey.

The kit is very basic but does enable a reasonable model of the MiG-9 to be made. It is good value for the price.

Brian L. Thorne

T 80 W/ERA

Manufacturer: DML
Scale: 1:35
Price: £15.20
Type: Injection Moulded

The T80 is the latest Soviet MBT to be released by Dragon. The T80 came into service with the Soviet forces in the early 1980s as an improved version of the T64, the main improvements being new suspension and a 1,000hp turbine engine for improved mobility. Reactive armour is also fitted to the T80 to defeat hand held anti-tank weapons. The idea is to retard



BTR 70

Manufacturer: DML
Scale: 1/35
Price: £13.75
Type: Injection moulded

The BTR 70 is an eight wheeled troop transporter, a progression of the BTR 60BP it solved the difficulty of crew entrance and exit by repositioning the hatches and the inclusion of side doors between the second and third wheels on both sides of the vehicle, the seating was rearranged so that the crew could fire from inside the vehicle closed down.

Production started in the mid 1970s as a cheap alternative to the BMP series of APCs.

The kit comes as six sprues and eight rubber wheels with the choice of either the early USSR or East German versions, the only difference being that the east German vehicle has firing ports on the sloped sides and a different rear hull plate. There is not anything difficult about this model but care must be taken when constructing the suspension units, making sure the shock absorbers fit into the lower wish-

bones, it does tend to become a bit of a production line with sub assemblies all over the place. With parts D2 and D3 the hull top plates, the pins should be cut off for a better fit. The frame C17 that covers the engine louvres could do with a cover of mesh, apart from this and maybe replacing some of the thicker grab handles with copper wire, there is nothing wrong with this kit and it looks very impressive when painted, washed and dry brushed.

T. Beale

the jet of the round by slabs of explosive armour that explodes when struck, it will not be effected by small arms fire or shrapnel.

The kit contains over 250 parts in the now familiar light grey plastic. Dragon have cured a few problems of their earlier tank kits like the heavy detail on the hull and the turret has a good cast texture. The fit of the parts is generally good but one fault has been carried on from previous kits, that is the drive sprockets, if they are put together as per the instruction sheet they will be too narrow for the tracks to fit, plasticard spacers are needed between parts B20 and

B23 to bring it up to the right width.

The dozer blade does not fit flat but with the skirts fitted it cannot be seen. The reactive blocks are a bit more of a problem because they do not fit as the instructions suggest, it is best to use the instructions as a guide and test fit every block first. The glacis plate is not too bad but the turret takes a bit of thought.

Since doing the kit I have found out that the angled blocks on the front of the turret, parts E10 and C5, actually follow the curve of the turret rather than all face forward as shown in the instructions, this may vary between units and both may be

right as I have only seen one piece of reference to show this. This being the case there are nine angled slabs on the left hand side of the turret roof between the gunners sight and the angled blocks. To the right of the barrel there are five sets of angled blocks between the search light and the smoke grenade dischargers, the extra ones can be made up from the double blocks left over from the glacis plate.

A very nice kit that pleads for a good dry brushing, there are a couple of small faults but overall the dimensions look right and that's what counts.

T. Beale





BELL 47H-13 SIOUX

Manufacturer: Esoteric Models
Scale: 1:48th
Price: £39.95

Type: Etched brass with resin and white metal parts. Eighteen months or so ago we had the pleasure of reviewing a 1:72nd scale model of the Sioux from Esoteric with mainly etched brass parts. That was good but with the larger scale this is even better. The 60 brass parts are contained on two frames and these are a joy to

behold such that it is almost a pity to start making the model. In addition to the brass parts there are 40 white metal pieces, nine resin and three transparencies - the cockpit bubble and the two doors. For good measure there is a double helping of the transparencies in case of need.

The instructions are in the form of a small booklet which gives step-by-step instructions for assembly with a small illustration for each step. To be really

honest I felt the instructions were the weakest part of the kit. The illustrations are very small and need a lot of study at times to try to determine where a part fits. The exact location of the engine is an example. A full scale side elevation would have been a great help. Some of the drawings are not accurate, for example, Figure 16 where the trusses of the top of the fuselage are drawn in the opposite direction of the model.

I found the assembly was not

really difficult but just needed patience and care. All the brass components are numbered and identified by a layout drawing of the frames although in one or two cases the numbering is incorrect. But it is obvious which is the correct part.

In retrospect I personally would recommend trimming the canopy bubble to fit the resin main cabin moulding before starting any assembly as this would be much easier to handle than to try to mark and trim it when surrounded by quite delicate structure.

The many variations of the Sioux make it difficult to give precise instructions for every variant so perhaps it would have been better to give exact instructions for just a couple but still provide the bits for others.

Decals are provided for a number of machines: H-13 59430 of the US Army, a M*A*S*H TV star, H-136 30135 of the JSDF, GAF H-13G AS-399 of the WGAf and XV313 of the RAF CFS. Take your choice.

The finished model is first rate and because of the open nature of its structure is bound to be a talking point. Being only a two bladed helicopter the model could nicely fit into a plastic case to keep it free from dust and safe from dusters. Well done Esoteric.

Brian Thorne

DASSAULT MIRAGE 2000N

Manufacturer: Heller
Scale: 1:48th
Price: £9.45

Type: Injection moulded

I decided to try the large scale Heller Mirage after building their rather disappointing pair of Etendards to see if the problems, particularly of fit, that I'd found with the naval pair were exceptional or more general.

The contents of the very eye catching box appeared to be well moulded in the standard mid grey Airfix plastic, with the surface detail engraved rather than raised as is Heller's current and very welcome fashion. The major mouldings, of the two fuselage halves, separated easily from their runners and push-fitted together well with no sign of the warping over their length which can be a problem with parts of this size; so far, so good then.

The two-seater cockpit bathtub has two three-piece seats and two control columns and decals for the two instrument panels but nothing for the flanking consoles and on completion fitted comfortably into the fuselage halves. Although there is no mention of it in the instructions, you will need to put weight in the nose to



stand the aircraft correctly on its nosewheel. The wings, with a large single underside panel and two upper parts with the control surfaces moulded with the latter to give a reasonably thin trailing edge, fitted each other well, but were deeper than the fuselage moulding along the length of the wing root. This with its fairing is a feature of the Mirage 2000 design and the surface detail engraved thereon would have been lost or needed considerable

reengraving if I had bridged the gap with filler. There are incidentally two alternative pairs of trailing edge wing root fairings on the sprue and shown on the all-picture instruction sheet, but with no indication of which to use; the colour scheme shows both aircraft with the simple fairing, so I used parts 39/40. I assume that the others which appear to carry a rear-facing aerial, are for a different version of the aircraft which Heller have

also kitted.

Stores comprise two enormous underwing tanks, a pair of Magic AAMs and the ASMP stand-off attack missile which is the 2000N's reason for existence, this last is moulded in two parts and needed filler around the ramjet intake area. The last parts to be fitted were the cockpit transparencies and here as well I had fit problems between canopies and fuselage, which were partly masked by the use of

Kristal Kleer as filler as well as adhesive. Finish is grey, green and pale grey, with the references given as always solely in Humbrol paint colours- Xtracolour produce a gris-blue fonce and a vert fonce and the underside colour was translated on my hobby shop's Humbrol rack as 36375. Both aircraft for which markings are given are from 4eme Escadrille based at Luxeuil in 1991 and I chose that from 2/4 not only because of the rather bolder unit markings, including the famous native American's head of the Escadrille Lafayette on the fin, but also because on the camouflage three view it was shown with one silver and one camouflaged drop tank! The decal sheet is very comprehensive and well designed and this

seems to be one of the major plus features in current Heller kits.

I always worry if I find fit problems in a review kit that it's me and not the kit that had caused them but I did tackle the Mirage with some care and if I interpret the reviews in our French contemporaries correctly — alas, modelling terms were not in my O-level vocabulary — I don't think I'm alone. Given the price and scale of the kit and in spite of the undoubted expense in making and correcting moulds, I do not expect to find problems like this in a kit from a company with Heller's reputation. There are times when I'm tempted to agree with my cross-Manche colleagues about Anglo-Saxon perfidy.

Mike McEvoy



DOUGLAS AD-4W SKYRAIDER

Manufacturer: Kitbits
Scale: 1:72nd
Price: £12.75

Type: Resin and metal conversion

THE AEW version of the Skyraider although kitted in 1:48th scale by Esci several years back has as far as I know only previously appeared in 1:72nd as a conversion, from Airmodel as a vacuform and from the lamented C-Scale as a selection of multi medium parts and as I had made neither I was very pleased when Dennis Ives of Flying High offered me the opportunity to review this substantial resin offering, intended for use with the Airfix kit, for review. There are two major resin pieces for forward and rear fuselage, separate fin, rudder and finlets, with a metal propeller and a very clear vacuformed canopy.

This last reveals one of the problems with many resin kits and conversions, that the cockpit area is just a suitably shaped hole in the top of the fuselage, making it less than easy to furnish the inside with any degree of detail. The matching of the front and rear fuselage castings, although they met through the radome, was very good and only a minimum of filler and sanding was needed to mask the join. The resin itself is of the caramel colour that appears to have become widespread over the last year or two and with the exception of a slightly warped fin, correctable in hot water, the quality of the parts was excellent. I made a mistake in assembly which I might not have done if I'd had a proper trial fit, but which I think could have been mentioned as a possible trap in the instructions; on attaching the fin to the fuselage I lined up the rear vertical surfaces of both with the result that there was a gap to be filled at the front of the dorsal fin fillet. When I came to fix the rudder, I found that there should have been a discontinuity

at that point with the hinge line of the rudder projecting over the stern post of the fuselage. I filled the resulting gap with scrap plastic and filler, but the model is now about four millimetres too long!

The Airfix kit is by now of a certain age, but the only sign of that on the one I acquired for the conversion was rivet detail of a heaviness that would not be expected today. Mating the engine, flying surfaces and undercarriage to the resin presented no problem and they fitted very well. For the inserts to cover parts of the undercarriage wells I pencilled the outline of the wheel on to plastic card and after cutting that out trimmed the surround to match the well. The kit hook was replaced by one from Aeroclub set V003.

By my side through most of the assembly was my BARG Monograph on the Fleet Air Arm AEWs, which I am sure is only available second-hand; it was invaluable not only for its 1:72nd scale plan — that in the instructions is rather smaller — but also for helping to pick the particular aircraft to model. Rejecting a Suez striped one as I'd finished my Esci kit in those many years ago, I settled on WT097 of 'D' Flight, 849 Naval Air Squadron, both because it was one of the first and last in service and because it carried what was as far as I know the only British military serial whose first digit was an '0'. Markings all came from the appropriate Modeldecals sheets, including those lines on the fin as an aid to the Deck Landing Officer, which were four 1s laid on their side. While resin is not a cheap medium, it provides in this kit a simple and effective conversion to a mark of aircraft that has been regrettably omitted from manufacturers kit lists. As far as I know this range of conversions is only available from Flying High, so check their advertisement for availability.

Mike McEvoy

AVIATION NEWS

As from 1 October 1989 the price for all plans will be £2.00 including p&p and VAT

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| Royal Air Force • Short Singapore III 1/3 • Vickers Wellington 1/6 • HS Harrier GR 1/T 2 1/8 • Bristol Blenheim 1/9 • Boulton Paul Overstrand 1/17 • Short Stirling 1/16 • Supermarine Spitfire IX and XVI 1/21 • BAC TSR 2 1/23 • Bristol Beaufighter 1/24 • AW Meteor NF 11 NF 14 2/1 • RAF Aerobatic Teams 1973 2/3 • Handley Page Heyford 2/8 • Avro Anson Mk 19 2/22 • Fairey IIIIF 2/13 • Bristol Bombay 2/14 • Gloster Javelin Mk 1 9 2/20 • BAC Strikemaster 2/20 • Boulton Paul Defiant 2/25 • Avro Lincoln 3/2 • Sero London 3/5 • RAF Aircraft 1974 3/9 • Percival Provost T 1 3/12 • Airedale Oxford 3/14 • Hawker Siddeley Venom 3/16 • Vickers Varsity & Valetta 3/17 • Westland Wessex 3/21 • Douglas Boston III 3/26 • Westland Lynxander I III 4/2 • Handley Page Hastings 4/7 • Vickers Varsity and Venom 4/10 • University Air Squadron colours 4/13 • Vickers Wellington 4/16 • Westland Whirlwind and Wallace 4/17 • Avro Vulcan B 2 4/22 • BAC Canberra 5/2 • Hawker Hunter 5/5 • de Havilland Devon 5/9 • de Havilland Vampire F 1 T 11 5/11 • Hunting Pembroke 5/16 • Miles Master and Martinet 5/17 • Sepecat Jaguar GR 1/T 2 5/19 • Consolidated Liberator with RAF 5/21 • Siskin Sunderland IV 5/26 • Hawker Siddeley Shackleton 6/1 • Bristol Blenheim I 6/3 • HS Buccaneer S 1/T 2 6/4 • HS Argosy 6/6 • Handley Page Hampden and Hereford 6/9 • Handley Page Victor K 2 6/11 • SAL Twin Pioneer 6/14 • HS Andover C 1 6/17 • Hawker Fury 6/16 • Percival Prentice T 1 6/23 • de Havilland RA F 1978 6/24 • de Havilland Hornet 6/26 • Westland Whirlwind F 1 7/5 • Fairey Battle B 1 7/6 • Westland Puma 7/7 • Armstrong Whitworth Whitley 7/9 • Bristol Beaufort Mk 1 7/13 • Vickers Valiant I-IV and Vincent I 7/14 • Armstrong Whitworth Siskin III 7/18 • HS 125 Dominie T 1 7/22 • Blackburn Beverley C 1 7/25 • Lockheed Hercules C 1 7/26 • Hawker Henley TT III 8/1 • BAe Hawk T 1 8/4 • Hawker Hart Family 8/5 • Avro Lancaster 8/12 • HS Gnat T 1 8/19 • Sero Lerwick 8/20 • SAL Jetstream T 1/T 2 8/22 • Hawker Tempest Mk II VI 8/25 • Beagle Bossart C 1 and Beagle B 206 9/3 • Armstrong Whitworth Albemarle 9/6 • Bristol Buckingham and Buckmaster 9/15 • Westland Welkin F 1/NF 2 9/20 • OH 58A Dragon Rapide/Dominie 9/22 • Avro Anson Mk 1 X 9/23 • BAC Jet Provost T 1 T 5 9/25 • DHC-1 Chipmunk T 10 10/5 • SAL Bulldog T 1 10/5 • Gloster Meteor Mk 1 X 10/8 • Boulton Paul Balliol 10/9 • Vickers Valiant 10/13 • Gloster Gladiator 10/24 • Handley Page 10/26 • B II/B III/B IV/A 9/Helton 11/3 • Bristol Vengeance HC 1 11/3 • de Havilland Venom NF 2 11/6 • Avro York C 1 and C 2 11/7 • Supermarine Swift 11/11 • Fairey Hendon 11/14 | Hawker Typhoon 11/16 RAF SE 5a 11/23 Blackburn Botha 11/25 Panavia Tornado 12/2 Handley Page Hyderabad 12/5 Westland Whirlwind Mk 1 B 12/6 Percival Proctor 12/9 Supermarine Southampton 12/10 Bristol Bulldog II 12/12 Armstrong Horse 12/13 Auster Mk IV 9 12/13 Avro Manchester 12/25 Westland Gazelle 13/4 Avro Tutor 13/11 Avro 504N 13/14 de Havilland Venom 13/16 Hawker Hurricane 14/3 de Havilland D H 9A 14/4 Vickers Virginia Mk X 14/6 Scottish Aviation Pioneer CC1 14/13 Gloster Gauntlet II 14/15 Gloster Gannet Mk 1 14/24 Bristol Scramor 14/25 de Havilland Mosquito 15/1 Prairie Warfame Corsair (Inopline) 15/7 Westland Whirlwind Mk 9-12 15/11 DH 114 Heron 15/17 Hawker Horsley 15/18 | DH 9 12/14 RAF BE 2c 12/19 Sopwith Dolphin 13/1 de Havilland DH 2 13/9 Sopwith Baby 13/24 Roland C II 14/2 Platz D 111 14/16 Moineau Saulnier Type I, N5V 15/4 World War 2 Luftwaffe • Dornier Do 17 1/2 • Junkers Ju 86 1/7 • Heinkel He 59 1/14 • Focke Wulf Fw 56 Stosser 1/19 • Arado Ar 36 1/25 • Junkers Ju 88 2/6 • Heinkel He 162 2/22 • Heinkel He 219 Uhu 3/6 • Junkers Ju 52/3mgle 4/9 • Heinkel He 177A 5/R 4 4/26 • Focke Wulf Fw 190V 1/T 4 5/18 • Messerschmitt Me 410A 6/22 • Focke Wulf Fw 189 7/19 • Henschel Ha 129B 2 10/16 • Fieseler Fi 156 Storch 10/18 • Dornier Do 335 Pfeil 10/20 • Heinkel He 115 10/24 • Dornier Do 24 12/11 • Fw 190D 9, Ta 152 12/20 • Heinkel He 51 12/23 • Messerschmitt Me 262 13/7 • Messerschmitt Bf 110 C 13/10 • Focke Wulf Fw 200 13/15 • Arado Ar 234 13/20 • Roland C 11 14/2 • Heinkel He 111H 2 14/17 • Blohm and Voess Bv 141 15/12 | Boeing Vertol Chinook 12/4 Bel P 63 Kingcobra 12/7 Curtiss C 46 Commando 12/16 Boeing P 26A 12/16 Fairchild C 119 Flying Boxcar 12/26 Vulcan Vengeance 13/2 Beech C 45 Expeditor 13/18 Martin 167 Maryland 13/19 Fairchild A 10A Thunderbolt II 13/22 Sikorsky H 60 13/23 Boeing B 17E/F 1/G 13/26 Lockheed C 130 Hercules 13/26 Fairchild A 10A 13/27 Thunderbolt 13/27 Sikorsky H 60 13/23 Boeing B 17E/F 1/G 13/26 Martin 187 Baltimore 14/5 Seversky P 35 14/6 Douglas Dakota 14/14 McDonnell Douglas F/A 18 Hornet 14/23 SAOsky Hoverfly 1 15/6 SAOsky Hoverfly II 15/14 Douglas AD 1B Skyraider 15/18 Northrop F 5E/F 15/18 | Italian aircraft • Aermacchi MB 326 1/20 • Fiat CR 32 2/17 • Savoia Marchetti SM 82 Marsupiale 4/8 • Reggiane Re 2001 Falco II 4/8 • Sme Marchetti SF 260 8/3 • Cant Z 1007ba 8/13 • Fiat G 91 8/18 • Breda 88 Lince 9/12 • Savoia Marchetti SM 79 Sparviero 9/14 • Fiat G 55 G 58 10/2 • Macchi C 200/C 202/C 205 10/6 • Caproni Ca 313 and Ca 314 10/7 • Fiat BR 20 Cigogne 10/12 • Cant Z 506 Aurora 11/5 • Aermacchi G 222 11/8 • Aermacchi MB 339 12/17 • Fiat G 50 12/24 • Fiat CR 42 13/12 | Swedish aircraft • SAAB J 29 Viggen 1/26 • SAAB 35 Draken 3/4 • SAAB 37 Viggen 4/11 • SAAB 105 5/20 • SAAB 32 Lansen 7/24 • SAAB 17A C 14/22 • SAAB J 21A 15/9 | French aircraft • Dassault Mirage III 6/2 • Stamps SV 48 6/6 • Fouge Magister 6/16 • Dassault MD 450 Ouragon 10/11 • Dassault Mirage IV 10/25 • Neupont Delage 29 11/26 • Nord 2501 Noratlas 12/15 • Dassault Breguet Dornier Alpha Jet 12/22 • Dassault Breguet Mirage F1 14/1 • Breguet BR 1050 Alize 15/3 • Breguet BR 1060 Alize 16/3 • Moineau Saulnier Type 1, N 5 & V 16/4 • Sud Aviation SO 4060 Vautour 18/8 • Breguet 14A2 and B2 18/13 | Russian aircraft • MiG 15 2/9 • MiG 19 3/10 • Luvonov Li |
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